

2017.10  
제35권 제2호

KPS 한국물리학회  
The Korean Physical Society

Bulletin of the Korean Physical Society

# 한국물리학회 회보

2017 가을 학술논문발표회 및 임시총회

2017.10. 25 (수) - 27 (금)

경주 화백컨벤션센터



Gyeongju C&V B  
경주화백컨벤션뷰로  
Gyeongju Headquarters  
Convention and Visitors Bureau

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## 004 2017 한국물리학회 가을 학술논문발표회 및 임시총회 전체일정표

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이번 호의 표지는 안준영, 양범정 회원의 최근 논문 Unconventional Topological Phase Transition in Two-Dimensional Systems with Space-Time Inversion Symmetry, PRL 118, 156401 (2017)에서 모티브를 채택했다. 이 논문에서는 이차원에서 일반 절연체와 양자 스핀 홀 절연체 사이에서 위상 상전이가 일어날 때 시스템이 특정 대칭성을 가지게 되면 두 절연체간의 상전이 중간 과정에 반드시 디락 준금속 상태가 나타나야함을 일반적으로 증명하였으며, 연관된 세션은 T5.01이다.

## 등록 및 발표장 안내

### 1. 초록요약집(Epitome) 배부

초록요약집(Epitome)은 현장 등록 또는 사전 등록을 하신 분에게 배포합니다.

### 2. 등록비 및 회비

구 분		금 액	구 분		금 액
등록비	평의원 · 정회원	150,000원	구독료 (평의원 · 정회원)	1종류 구독	80,000원
	학생회원	90,000원		2종류 구독	120,000원
	비회원 일반	300,000원			
회 비	비회원 학생	150,000원	구독료 (학생회원)	1종류 구독	40,000원
	평의원	100,000원		2종류 구독	60,000원
	정회원	50,000원			
	학생회원	20,000원		입회비	신입회원 10,000원

### 3. 발표장

분과명	구두발표장		학회 주관 행사
입자물리학과	101호~103호	포스터 발표장 1층 실내 전시장	총회: 300C호
핵물리학과	104호, 300C호		평의원회: 300C호
응집물질물리학과	201호~204호, 300A호		기조강연1: 300C호
응용물리학과	206호		기조강연2: 300C호
통계물리학과	102호		중이온가속기 구축사업 현황소개
물리교육과	105호		특별세션: 300C호
플라즈마물리학과	205호		물리학 전공인력의 취업/수급 현황: 300C호
광학 및 양자전자학과	204호		여성위원회강연: 300B호
원자 및 분자물리학과	105호		APCTP Keynote Talk: 300C호
반도체물리학과	105호, 106호		정부과학정책의 변화 방향: 300B호
천체물리학과	103호		입자물리학과-APCTP Benjamin W. Lee
생물 물리학 분야	300B호		특별세션: 300C호
			KIAS 대강연: 300C호
			학부생 작품발표회: 1층 실내 전시장

### 4. 포스터 발표

- 포스터 발표는 "포스터 게시", "포스터 발표"로 진행됩니다.

- 포스터 게시: 발표 당일 13:00부터 발표 다음날 12:00까지 (23시간) 지정장소에 부착 (발표자가 없는 동안에도 자유롭게 포스터를 볼 수 있게 하기 위해 23시간 동안 포스터를 게시합니다.)
- 포스터 발표: 발표일 18:00부터 19:30까지 (90분) 현장발표
- 우수포스터 시상: 최종 심사결과를 종합하여 선정 후 한국물리학회 홈페이지에 공지되고 상장이 개별 발송됩니다.

- 수요일의 P1 세션의 포스터 발표자의 경우: 수요일 13:00에 포스터를 지정 장소에 붙이고, 당일 저녁 18:00 - 19:30에 포스터 앞에 서서 발표를 하며, 다음 날인 목요일 12:00에 포스터를 뗍니다. 수요일 포스터 우수발표자의 포스터에는 목요일 12:00까지 리본이 부착됩니다.
- 목요일 P2 세션의 포스터 발표자의 경우: 목요일 13:00에 포스터를 지정 장소에 붙이고, 당일 저녁 18:00 - 19:30에 포스터 앞에 서서 발표를 하며, 다음 날인 금요일 12:00에 포스터를 뗍니다. 목요일 포스터 우수발표자의 포스터에는 금요일 12:00까지 리본이 부착됩니다.

### 5. 구두발표

- 모든 학술분과의 동의를 얻어 구두 발표시간을 아래와 같이 통일하여 진행합니다.  
일반구두 발표표: 12분/ 초청발표: 24분 (혹은 분과에서 지정한 시간)
- 우수발표상 후보 논문은 초록요약집에 \*로 표시되어 있습니다.

# 2017 한국물리학회 가을 학술논문발표회 및 임시총회 전체일정표

• 경주화백컨벤션센터 2017.10.25(수)~27(금)

## 구두발표 (Program by session code)

	Room Number	101	102	103	104	105	106	201
10월 25일 (수)								
11:00~12:48	AA: Wednesday Morning							T1-co
13:00~14:00		Plenary (노벨 수상자, T Hooft)						
14:00~15:48	A: Wednesday Afternoon 1	A1-pa	A2-st	A3-pa	A4-nu	A5-at	A6-se	E A7-co
16:00~17:48	B: Wednesday Afternoon 2	B1-pa	B2-st	T2-pa		B5-at	B6-se	E B7-co
18:00~19:30		Particle Phys. Div. Meeting	Statistical Phys. Div. Meeting	P1-st		At&Mol Phys. Div. Meeting	Semicond Phys. Div. Meeting	
		P1-ap.1	P1-ap.2	P1-ap.3	P1-ap.4	P1-at	P1-bp	P1-co.1
10월 26일 (목)								
09:00~10:48	C: Thursday Morning 1	E C1-pa	C2-pa	C3-as	C4-nu	C5-at	E C6-se	E C7-co
11:00~12:48	D: Thursday Morning 2	E D1-pa	D2-st	D3-as	D4-nu	D5-at	E D6-se	E D7-co
13:00~14:00		Plenary (Heinrich)						
14:00~15:48	E: Thursday Afternoon 1	E1-pa	E2-st	E3-as	E4-nu	E5-te	E6-se	E E7-co
16:00~17:48	F: Thursday Afternoon 2	F1-pa	F2-st	T4-as	E F4-nu	F5-se	F6-se	F7-co
18:00~19:30		P2-pl.3	P2-pl.4	Astro Phys. Div. Meeting	Nuclear Phys. Div. Meeting	P2-pl.5	P2-se	Cond Mat Phys. Div. Meeting
		P2-ap.1	P2-ap.2	P2-ap.3	P2-as	P2-co.1	P2-co.2	P2-co.3
10월 27일 (금)								
09:00~10:48	G: Friday Morning 1	E G1-pa	G2-pa	G3-as	G4-nu		G6-se	G7-co
11:00~12:48	H: Friday Morning 2	E H1-pa	H2-pa	H3-as	H4-nu		H6-se	H7-co

※ E session in English.

Cond matt	Teaching	Atomic	Plasma
Appl phys	Particle	Optics	Poster
Semicond	Astrophys	Special	Planary
Nuclear	Stat phys	Bio	

202	203	204	205	206	300A	300B	300C
10월 25일 (수)							
Plenary (노벨 수상자, T Hooft)							
A8-co	A9-co	A10-co	A11-pl	A12-ap	A13-co	A14-bp	
B8-co	B9-co	B10-co	B11-pl	B12-ap	B13-co	T3-bp Biological Phys Meeting	[B15-or] 중이온가속기 구축사업 현황소개
							General Assembly (18:00-19:00)
P1-co.2	P1-co.3	P1-co.4	P1-co.5	P1-nu	P1-pl	P1-se	KPS fellow Meeting& Reception(19:00-20:00)
10월 26일 (목)							
C8-co	C9-co	C10-op	C11-pl	C12-ap	E C13-co	C14-bp	C15-nu
D8-co	D9-co	D10-op	D11-pl	D12-ap	E D13-co	D14-bp	[D15-or] 물리학 전공인력
Plenary (Heinrich)							
E8-co	E E9-co	E10-op	E11-pl	E12-ap	E13-co	[E14-or] 여성위원회 강연	[E15-or] APCTP Keynote Talk (14:00-15:00)
F8-co	E F9-co	F10-op	F11-pl Plasma Phys Div. Meeting	F12-ap	F13-co	[F14-or] 장부과학정책의 변 화 방향	[F15-or] 입자물리분 과-APCTP (15:00-18:00)
P2-te	Optical Phys Div. Meeting		Applied Phys Div. Meeting				
P2-co.4	P2-op	P2-pa.1	P2-pa.2	P2-pa.3	P2-pl.1	P2-pl.2	[W1-or] KIAS 대중강연 (18:00-20:00) [W2-or] 학부생 작품 발표회
10월 27일 (금)							
G8-co	G9-co	G10-op	G11-pl	G12-ap	G13-co		
H8-co	H9-co	H10-op	H11-pl	H12-ap	T5-co		



## Program by session title

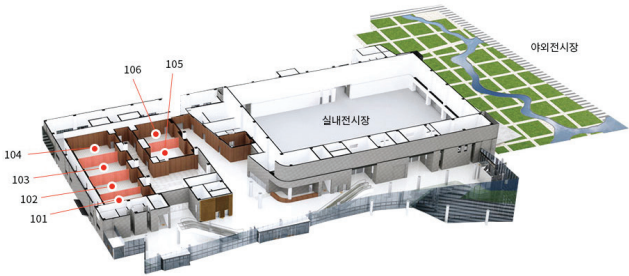
	Room Number	101	102	103	104	105	106	201
10월 25일 (수)								
11:00~12:48	AA: Wednesday Morning							Tutorial: Spin-orbit coupling in SCES
13:00~14:00		Plenary (노벨 수상자, 'T Hooft)						
14:00~15:48	A: Wednesday Afternoon 1	Non-accelerator-based particle phys. exp. I	Complex systems I	Field & string theory	Hadron physics	Focus: Attosecond sci. and tech.	Focus: Perovskite optoelectronic materials	Pioneer: Oxides for energy appl. I
16:00~17:48	B: Wednesday Afternoon 2	Non-accelerator-based particle phys. exp. II	Focus: Machine learning & phase transitions	Tutorial: Machine learning beyond standard model		Atoms & molecules	Focus: Quantum ring	Pioneer: Oxides for energy appl. II
18:00~19:30		Particle Phys Div. Meeting	Statistical Phys Div. Meeting	P1-st	AI&Mol Phys Div. Meeting	Semicond Phys Div. Meeting		
		P1-ap.1	P1-ap.2	P1-ap.3	P1-ap.4	P1-at	P1-bp	P1-co.1
10월 26일 (목)								
09:00~10:48	C: Thursday Morning 1	Pioneer: Dark matter & new phys. I	Accelerator-based particle phys. exp. I	Focus: Gravitational wave astronomy I	Nuclear exp. method etc. I	Quantum computing	Pioneer: Energy harvesting tech. I	Pioneer: Non-equilibrium first-principles cal. I
11:00~12:48	D: Thursday Morning 2	Pioneer: Dark matter & new phys. II	Chaos/nonequilibrium systems	Focus: Gravitational wave astronomy II	Nuclear exp. method etc. II	Quantum information	Pioneer: Energy harvesting tech. II	Pioneer: Non-equilibrium first-principles cal. II
13:00~14:00		Plenary (Heinrich)						
14:00~15:48	E: Thursday Afternoon 1	Accelerator-based particle phys. exp. II	Biophysics	Astrophysics theories	Pioneer: Structure of nuclei & hadrons I	Physics teaching	Focus: Dirac/Weyl semimetals I	Pioneer: Oxides for energy appl. III
16:00~17:48	F: Thursday Afternoon 2	Accelerator-based particle phys. exp. III	Complex systems II / phase transition	Tutorial: Quantum entanglement and gravity	Pioneer: Structure of nuclei & hadrons II	Low-dim. nanomaterials	Focus: Dirac/Weyl semimetals II / nanomaterials	Focus: Synchrotron x-ray studies
18:00~19:30		P2-pl.3	P2-pl.4	Astro Phys Div. Meeting	Nuclear Phys Div. Meeting	P2-pl.5	P2-se	Cond Mat Phys Div. Meeting
		P2-ap.1	P2-ap.2	P2-ap.3	P2-as	P2-co.1	P2-co.2	P2-co.3
10월 27일 (금)								
09:00~10:48	G: Friday Morning 1	Pioneer: Sterile neutrino searches & JNS2 exp. I	Accelerator-based particle phys. exp. IV	Astrophysics exp. & observations I	Relativistic heavy ion collisions		Compound semiconductors	Focus: Flexoelectricity
11:00~12:48	H: Friday Morning 2	Pioneer: Sterile neutrino searches & JNS2 exp. II	Particle phys. theory	Astrophysics exp. & observations II	Nuclear structure & astrophysics		Semiconductor devices	Dielectrics/functional oxides

※ E session in English.

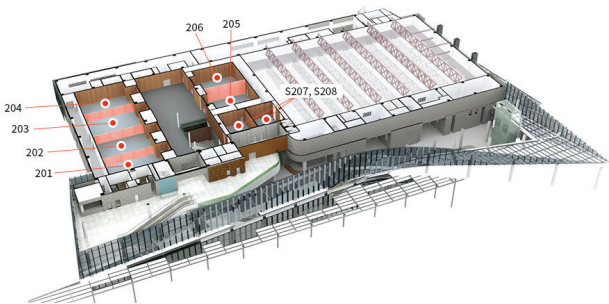
	202	203	204	205	206	300A	300B	300C
10월 25일 (수)								
Plenary (노벨 수상자, 'T Hooft)								
Focus: Magnetic vdW materials I	Focus: Superconductivity in low-dim. materials I	Focus: Graphene & topological materials	Focus: Basic fusion R&D program I	Focus: Organic materials & devices I	Focus: Synch. x-ray studies for advanced materials I	Focus: Mathematical biology		
Focus: Magnetic vdW materials II	Focus: Superconductivity in low-dim. materials II	Nano and mesoscopic physics	Focus: Basic fusion R&D program II	Focus: Organic materials & devices II	Focus: Synch. x-ray studies for advanced materials II	Tutorial: Super-resolution imaging Bio Phys Meeting	[B15-or] 중이온가속기 구축사업 현황소개	
P1-co.2	P1-co.3	P1-co.4	P1-co.5	P1-nu	P1-pl	P1-se	총회 (18:00-19:00) 평의원회 (19:00-20:00)	
10월 26일 (목)								
Surface/interface/ nanomaterials	Focus: Quantum material property in 4d/5d oxides I	Optical science & technology	Focus: Basic fusion R&D program II	Surface, interface & thin films	Pioneer: High pressure phys. & superconductivity I	Biological physics I	Nuclear reaction	
Focus: Quantum coherence in condensed matter	Focus: Quantum material property in 4d/5d oxides II	THz & nanophotonics	Accelerator & Beam I	Photonics & optoelectronics	Pioneer: High pressure phys. & superconductivity II	Biological physics II	[D15-or] 물리학 전공인력	
Plenary (Heinrich)								
Focus: Orbital pol. & Rashba coupling I	Pioneer: Pseudo-gaps in high Tc superconductor I	Focus: 2D material photonics I	Focus: Recent adv. in accelerator tech. I	Advanced materials syntheses & characterizations	Cond. mat. computational phys. I	[E14-or] 여성위원회 강연	[E15-or] APCP Keynote Talk (14:00-15:00)	
Focus: Orbital pol. & Rashba coupling II	Pioneer: Pseudo-gaps in high Tc superconductor II	Focus: 2D material photonics II	Focus: Recent adv. in accelerator tech. II Plasma Phys. Div. Meeting	Focus: Nanomaterials for energy appl.	Cond. mat. computational phys. II	[F14-or] 정부과학정책의 변화 방향	[F15-or] 입자물리분과-APCP (15:00-18:00)	
P2-te	P2-op	Optical Phys Div. Meeting		Applied Phys Div. Meeting			[W1-or] KIAS 대웅강연 (18:00-20:00) [W2-or] 학부생 작품 발표회	
P2-co.4	P2-co.1	P2-pa.1	P2-pa.2	P2-pa.3	P2-pl.1	P2-pl.2		
10월 27일 (금)								
Magnetism	Strongly correlated systems I	Fiber light sources & sensing	Fusion, plasma instruments & appl.	Nanomaterials & nanodevices I	Cond. mat. computational phys. III			
Superconductivity	Strongly correlated systems II	Solid state lasers & systems	Accelerator, beam II & basic plasmas	Nanomaterials & nanodevices II	Tutorial: Dirac/Weyl semimetals			

## 경주화백컨벤션센터 발표장 안내도

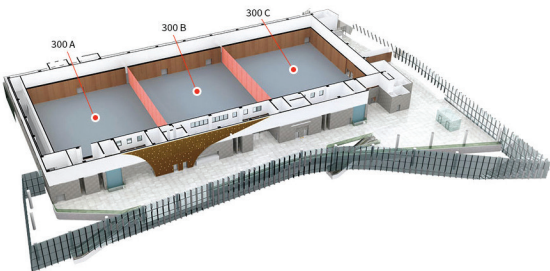
1F



2F



3F



## Sessions organized by KPS committees

[Y1-or] KPS plenary talk 1	17
[Y2-or] KPS plenary talk 2	17
[B15-or] Heavy-Ion Accelerator Facility	19
[D15-or] Job-market and supply of physics-majors in our society	20
[E14-or] The lecture of the committee on the status of women in physics	20
[E15-or] APCTP keynote talk	21
[F14-or] New direction in national science policy	21
[F15-or] Honoring 40th Anniversary of the death of Prof. Benjamin W. Lee	22
[W1-or] KIAS Public Lecture: The Frontiers of Physics	23
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[T2-pa] Machine Learning in search for New Physics beyond the Standard Model	24
[T3-bp] Super-resolution Imaging	25
[T4-as] Quantum entanglement and gravity	26
[T5-co] Introduction to Dirac and Weyl semimetals	26

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## AA: October 25(Wed) 11:00-12:48

[AA7-co] Tutorial(T1-co) Spin-orbit coupling in strongly correlated systems	29
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[A2-st] Complex systems I	31
[A3-pa] Field and string theory	32
[A4-nu] Hadron physics	33
[A5-at] Focus: Current research trends in Attosecond Science and Technology	34
[A6-se] Focus: Perovskite optoelectronic materials	34
[A7-co] [E] Pioneer: Oxides for energy application I	35
[A8-co] Focus: Magnetic van der Waals materials I	35
[A9-co] Focus: Superconductivity in low-dimensional materials and systems I	36
[A10-co] Focus: Nano/mesoscopic system, graphene and topological materials	37
[A11-pl] Focus: Symposium for the basic fusion research & development program I	37
[A12-ap] Focus: Organic materials and devices I	38
[A13-co] Focus: Synchrotron x-ray studies for spintronic and advanced functional materials I	39
[A14-bp] Focus: Introduction to mathematical biology	39

## B: October 25(Wed) 16:00-17:48

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[B2-st] Focus: Frontiers in machine learning and phase transitions	42

[B3-pa] Tutorial (T2-pa) Machine Learning in search for New Physics beyond the Standard Model	42
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[B8-co] Focus: Magnetic van der Waals materials II	45
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[B10-co] Nano and mesoscopic physics	46
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[B12-ap] Focus: Organic materials and devices II	48
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[B15-or] Heavy-Ion Accelerator Facility	51

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[C3-as] Focus: Gravitational wave astronomy I	53
[C4-nu] Nuclear Exp. Method etc. I	53
[C5-at] Quantum Computing	55
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# 구두발표논문 시간표

Oral session schedule

[Y1-Or] KPS 기조강연 1

KPS plenary talk 1

2017.10.25 (Wed) 13:00 – 13:48

Room: 300C

좌장 : 정 우 성 포항공대

Chair : JUNG Woo-Sung (POSTECH)

Presenter: **T HOOFT Gerard** (Utrecht University)

Title: Quantum Black Holes and the Structure of Space and Time

Abstract: Theories of strings and D-branes can be used to describe objects that may be regarded as black holes or candidates thereof, but leave some properties of horizons and space-time structure underdeveloped. Yet one can also start off with black hole models using not much more than standard quantum field theory in combination with perturbative gravity. Then also, one can take gravitational back reaction into account, and find out where information is stored and how out-going particles are entangled. This yields a remarkably clear picture of the non-trivial space-time structure of black holes.

[Y2-Or] KPS 기조강연 2

KPS plenary talk 2

2017.10.26 (Thu) 13:00 – 13:48

Room: 300C

좌장 : 박 권 고등과학원

Chair : PARK Kwon (KIAS)

Presenter: **HEINRICH Andreas J.** (Center for Quantum Nanoscience, Institute for Basic Science; Physics Department, Ewha Womans University)

Title : The Quantum Properties of Magnetic Atoms on Surfaces

Abstract: The scanning tunneling microscope is an amazing tool because of its atomic-scale spatial resolution. This can be combined with the use of low temperatures, culminating in precise atom manipulation and spectroscopy with microvolt energy resolution. In this talk we will apply these techniques to the investigation of the quantum spin properties of magnetic atoms sitting on a thin film of magnesium oxide (MgO). In such a situation, the thin insulating film serves two important purposes: first, it provides a strong ligand field which is crucial to understanding the low-energy (magnetic) states of the metal atoms (adsorbate). Second, the insulating film electronically decouples the atom from the underlying conduction electrons, which in turn preserve the quantumness of the adsorbate.

In a first set of experiments, we will investigate the tunneling spectroscopy of 3d

transition metal atoms at low temperature and in high magnetic fields. We find that the tunneling electrons can interact with the magnetic states of the adsorbate by exchanging energy and quanta of angular momentum. This leads to clear selection rules in this inelastic tunneling spectroscopy, which we coined 'spin excitation spectroscopy' (Science 2004). Due to the strong ligand field of the polar MgO surface, we find that adsorbates with spin larger than  $\frac{1}{2}$  show strong magnetic anisotropy, giving rise to non-trivial magnetic states (Science 2014, PRL 2015).

On our quest towards more quantumness we will then investigate the lifetimes of excited states. After a tunneling electron excites the adsorbate, it can be left behind in an excited state. Often this lifetime is far shorter than the time resolution of traditional STM, which is in the range of millisecond. We therefore developed an all-electrical pump and probe measurement technique that allows lifetime measurements down to nanoseconds (Science 2010). Surprisingly, we find lifetimes that vary from nanoseconds to hours, a truly amazing consequence of the quantum states of the different adsorbates.

Finally, we will explore the superposition of quantum states which is inherent to spin resonance techniques. We recently demonstrated the use of electron spin resonance on single Fe atoms on MgO (Science 2015). This technique combines the power of STM of atomic-scale spectroscopy with the unprecedented energy resolution of spin resonance techniques, which is about 10,000 times better than normal spectroscopy.

2017년 10월 25일(Wed) 학회주관세션 Sessions organized by KPS committees

**[B15] 중이온가속기 구축사업 현황소개 특별세션**  
**Heavy-ion accelerator facility**

2017.10.25 (Wed) 16:00 – 17:48

Room: 300C

좌장 : **홍 병 식** 고려대

Chair : HONG Byungsik (Korea University)

현재 2021년 시운전을 목표로 건설 중인 중이온가속 시설은 원소의 기원 탐구, 새로운 동위원소들의 발견과 그 구조 탐구, 희귀동위원소 연구, 그리고 그와 관련된 초기 우주 연구 등의 순수 학문 분야의 연구 뿐만 아니라, 신물질 연구, 생물 의학 응용 연구 등 우리나라 차세대 기초과학 연구의 핵심 인프라 구축 실현을 목표로 하고 있습니다. 2021년 시운전을 앞두고 중이온가속기 구축현황과 현황점검 TF 결과에 대한 논의와 토론의 장을 마련하고자 이 특별세션을 개최합니다.

[16:00 – 16:05]

**인사말 / 이진규** (과학기술정보통신부 차관)

[16:05 – 16:30]

**가속기운영현황 발표 / 정순찬**

[16:30 – 17:00]

**가속기 현황점검분과발표 / 김용균** (총괄 및 사업관리 분과장)

**홍승우** (활용 분과장)

**조용섭** (가속기 분과장)

[17:00 – 17:30]

**토론**

[17:30 – 17:45]

**질의 및 응답**

[17:45 – 17:48]

**마무리**

**[D15-or] 물리학 전공 인력의 취업/수급 현황**

**Job-market and supply of physics-majors in our society**

2017.10.26 (Thu) 11:00 – 12:00

Room: 300C

좌장 : 김 윤 기 광운대

Chair : KIM Yunki (Kwangwoon University)

지난 10여년 동안 대학 구조조정은 그다지 낯설지 않은 단어가 되었다. 출신율의 감소로 인한 전체 학생수의 감소 (+확실한 전망), 물리학 및 관련 분야 전공자들의 취업 상황이 점점 열악해져 가는 현실이 물리학과 (학부 및 대학원) 학생수 감소, 학과 명칭 변화, 심지어는 학과 통폐합 등으로 모습을 드러내 오고 있다. 이번 가을 학술논문발표회에서는 물리학 전공 인력 (폭넓게는 자연계 전공자)의 취업 및 수급 현황에 대해 살펴보고 문제점을 타개할 방안에 대해서 토론할 시간을 갖고자 합니다.

[11:00 - 11:05]

인사말 / 최은하(정책위 위원장)

[11:05 - 11:35]

과학기술인력 현황과 수급전망을 통해 본 과학기술인력 발전방안 / 심정민 (KISTEP)

[11:35 - 11:55]

질의응답 및 토의

[11:55 - 12:00]

마무리

**[E14-or] 여성위원회 강연**

**The lecture of the committee on the status of women in physics**

2017.10.26 (Thu) 14:00 – 15:48

Room: 300B

좌장 : 정 란 주 광운대

Chair : JUNG Ranju (Kwangwoon University)

2017년 가을물리학회 여성세션의 주제는 “여성물리학자의 삶”입니다. 선배 여성물리학자로 경험한 다양한 경력을 신진 여성물리학자들과 공유하는 시간을 갖고자 합니다. 이미 물리학자의 길로 들어선 여성물리학자 뿐만 아니라 미래의 여성물리학자인 대학원생들에게도 큰 도움이 되는 시간이 될 것입니다. 여성위원회 위원장과 부총장 등 다양한 경험을 가지신 연사님과 국회의원과 국공립연구소 원장님을 지내신 연사님을 힘들게 모셨습니다. 두 분의 강연을 통해 많은 노하우를 얻어 가시길 바랍니다.

[14:00 - 14:05]

인사말 및 여성위원회 활동 소개

[14:05 - 14:35]

여성물리학자? 평생물리학도! / 김영순 (명지대)

[14:35 - 15:05]

**Developing Gender Indicators in Science and Technology from National Innovation Systems (NIS) Perspective / 박영아 (전 KISTEP원장, 명지대)**

[15:05 - 15:15]

다과 및 토의

**[E15-or] APCTP 기초강연**

**APCTP Keynote talk**

2017.10.26 (Thu) 14:00 – 15:00

Room: 300C

좌장 : 신 상 진 한양대

Chair : SIN Sang-Jin (Hanyang University)

아태이론물리센터는 국내외 연구자들과 세계적 석학들의 소통 및 교류를 활성화하기 위해 국내 유일 Benjamin Lee 관련 학술 프로그램을 2012년부터 성황리에 진행해 오고 있습니다. 2017년 Benjamin Lee 석좌교수 프로그램의 선정자로는 2015년 막스플랑크 메달 수여자인 Viatcheslav F. Mukhanov 교수님으로, 금번 가을 학술논문발표회에 초청하여 세계 정상급 물리학자들의 귀감이 되었던 이휘소 박사의 빛나는 업적을 공유하는 시간을 가짐으로써 중견 연구자 뿐 아니라 대학원생들에게도 큰 도움이 될 것으로 기대합니다.

[14:00 - 15:00]

**Resolving Singularities in General Relativity / MUKHANOV**

Viatcheslav F. (Arnold Sommerfeld Center for Theoretical Physics (ASC))

**[F14-or] 정부 과학 정책의 변화 방향**

**New direction in national science policy**

2017.10.26 (Thu) 16:00 – 17:48

Room: 300B

좌장 : 김 윤 기 광운대

Chair : KIM Yunki (Kwangwoon University)

지난 6월 9일, 한국물리학회회를 포함한 14개 기초과학 학회 / 협의회가 주최하고 미래방송통신위원회 소속 의원들이 참석한, 창의적 기초연구 진흥을 위한 R&D정책제안발표회가 국회에서 열렸습니다. 최근 정부에서는 이날 제안된 내용을 상당 부분 수용해 향후 5년간 국가 과학 정책에 상당한 변화가 있을 것임을 예고했습니다. 또한 연구자 주도 연구에 대한 지원 확대를 호소한 국회청원 이후, 2016-7년 관련 연구비 예산의 증액이 이루어지는 등 연구자들의 목소리가 개진되고 정책에 반영되는 일이 일어나고 있습니다. 이번 가을 학술논문발표회에서는 이러한 국가 과학 정책의 변화 방향에 대해 살펴보고 관련된 주제에 대해서 토론하고자 합니다.



[16:00 - 16:05]  
**학회장 인사말**

[16:05 - 16:35]  
**정부지원 기초연구사업 현황 및 2018 년 사업 방향 / 이용훈 단장** (연구재단  
자연과학단)

[16:35 - 16:50]  
**질의응답**

[16:50 - 17:20]  
**문재인 정부의 과학기술 투자 방향 고찰 / 이장재 (KISTEP)**

[17:20 - 17:40]  
**질의응답 및 토의**

**[F15-or] 입자물리분과-APCTP Benjamin W. Lee 특별 세션**  
**Honoring 40th Anniversary of the death of Prof.**  
**Benjamin W. Lee**  
2017.10.26 (Thu) 15:00 – 18:00 Room: 300C  
좌장 : 오 선 군 건국대  
Chair: OH Sun Kun (Konkuk University)

Benjamin W. Lee 박사의 40주기를 기념하여, Benjamin Lee 박사의 업적을 기리고,  
이후 관련 분야의 발전을 되짚어 보고, 특히 게이지 이론의 재규격화, 맵시 쿼크의  
예측, 암흑 물질의 성질에 대한 초기 분석 등 현 시점에서도 의의가 큰 그의 업적들  
을 정리해 보조가 합니다.

[15:00 - 15:36]  
**The early days of the Standard Model - remembering Benjamin**  
**Lee - 'T HOOFT Gerard (Utrecht Univ.)**

[15:36 - 16:12]  
**A hard working genius - FUJIKAWA Kazuo(The University of Tokyo)**

[16:12 - 16:36]  
**내가 아는 이휘소 박사 – 김제완 (서울대 명예교수)**

[16:36 - 17:00]  
**Ben Lee in 1977 – 김진의 (서울대 명예교수)**

[17:00 - 17:24]  
**The role of the Higgs-boson mass – 최성열 (전북대)**

[17:24 - 17:48]

**Rare K and B decays as crucial keys to understand heavy particles**  
– 권영준 (연세대)

**[W1-or] KIAS 대중강연: 물리학의 최전선**  
**KIAS Public Lecture: The Frontiers of Physics**  
2017.10.26 (Thu) 18:00 – 20:00 Room: 300C  
좌장 : 백 승 원 고등과학원  
Chair : BAEK Seungwon (KIAS)

‘물리학의 최전선’에서 활동하고 계시는 전문가의 최첨단 연구 결과 및 최근의 노벨  
상 수상 해설 강연을 통하여 기초과학에 관한 중고등학생과 대중의 관심을 높이고  
과학문화의 대중화에 기여하고자 합니다. 이번에는 한양대학교 김항배 교수님과 고  
등과학원 박권 교수님께서 강연해 주실 예정입니다.

[18:00 - 18:50]  
**아인슈타인과 우주 : 100년의 신화 – 김항배 (한양대)**

[19:00 - 19:50]  
**많음, 다름, 그리고 양자역학 More, Different, and Quantum – 박권**  
(KIAS)

**[W2-or] 학부생 작품 발표회**  
**Undergraduate research poster session**  
2017.10.26 (Thu) 18:00 – 19:30 Room: Exhibition Hall  
좌장 : 이 신 범 DGIST  
Chair : LEE Shinbuhm (DGIST)

전국의 대학 학부생들을 대상으로 물리에 대한 관심과 흥미를 고취시키고, 교류의  
장을 제공하기 위하여 한국물리학회 가을학술논문발표회에 학부생 작품 발표회를  
개최합니다.

**[T1-co] Tutorial: Spin-orbit coupling in strongly correlated systems**

2017.10.25 (Wed) 11:00 – 12:48

Room: 201

좌장 : 문 순 재 한양대

Chair : MOON Soonjae (Hanyang University)

**T1.01 (초)** [11:00 - 12:48]**Spin-orbit coupling in strongly correlated systems / KIM Yeong**Kwan<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology)

Strongly correlated systems, named due to the presence of strong electron-electron correlation, are the hosts of variety of interesting phenomena such as metal-insulator transition, magnetism including quantum spin liquid, spin-charge separation and unconventional superconductivity. This variety comes from the fact that all possible interactions played by all degree of freedoms (DOFs) in solid - lattice, charge, orbital and spin DOF are equally important in the fundamental level, enhanced by strong correlation.

Among many interactions in solids, spin-orbit coupling is highlighted recently due to its key role on the formation of topological state. When spin-orbit coupling is combined with correlation flavor, it can manifest many interesting results such as relativistic Mott insulating phase driven by melting of orbital angular momentum quenching against the crystal field forced by spin-orbit coupling. In this tutorial, starting from basics of spin-orbit coupling and correlation effect in solid, recent examples from the presence of spin-orbit coupling and the correlation will be introduced.

**[T2-pa] Tutorial: Machine learning in search for new physics beyond the standard model**

2017.10.25 (Wed) 16:00 – 17:48

Room: 103

좌장 : 권 영 준 연세대

Chair : KWON Youngjoon (Yonsei University)

**T1.01 (초)** [16:00 - 16:54]**Machine Learning Algorithms for High Energy Physics**/ 조원상 (CHO, Won Sang)<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

심층신경망(deep neural networks)을 통한 학습기법의 비약적인 발전으로 인하여, 복잡한 데이터속에 담겨져있는 모델을 추출해내는 기계의 성능이 매우 빠른 속도로 향상되고 있으며, 이러한 기계학습알고리즘(machine learning algorithm)의 발전은 인간만이 할 수 있었던 작업들을 효율적으로 대체하는 수준을 넘어, 인간이 하

지 못했던 모델링을 가능하게 한다. 고에너지의 진공으로부터, 최종 탐지기에 남게 되는 복잡한 전기신호까지, 광범위한 유효 시스템에서의 모델들과 데이터들의 거대 집합으로서의 고에너지 입자물리학은, 기계학습의 발전이 자연과학의 발전에 기여할 수 있는 매우 좋은 테스트베드가 되고 있으며, 이는 인공지능과 함께 할 과학의 미래를 예견해볼 수 있는 좋은 사례가 된다. 본 튜토리얼 세션에서는 기계학습을 통한 모델링의 의미와 여러가지 기계학습 알고리즘들을 예제와 더불어 상세히 설명하고, 고에너지 물리학에의 최신 응용 사례들을 소개하고자 한다.

**T2.02 (초)** [16:54 - 17:48]**포스트 힉스 시대의 딥 러닝 / 김태정<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Hanyang University)

2012년 힉스 입자가 발견되고 5년이 지난 지금 힉스 입자의 질량을 자연스럽게 설명하거나 암흑물질의 후보가 되는 새로운 입자의 존재가 아직 확인되지 않고 있다. 그 동안 거대 양성자 충돌에서 충돌에너지는 높아지고 데이터의 양은 점점 쌓여 앞으로는 100배가 넘는 데이터의 양이 더 쌓일 것으로 예상된다. 이런 포스트 힉스 시대에 딥 러닝의 필요성과 역할에 대해서 소개하고자 한다.

**[T3-bp] Tutorial: Super-resolution imaging**

2017.10.25 (Wed) 16:00 – 17:00

Room: 300B

좌장 : 이 종 봉 포항공대

Chair : LEE Jong-Bong (POSTECH)

**T3.01 (초)** [16:00 - 17:00]**초고해상도 광학 이미징 / 심상희<sup>\*1</sup>** (<sup>1</sup>고려대학교, 화학과)

광학 이미징 기기의 해상도는 가시광선의 회절로 인하여 제한되기 때문에, 높은 개구수의 고분해능 광학 현미경도 약 250 nm의 해상도를 가진다. 이러한 분해능의 한계 때문에 나노미터 규모에서 일어나는 생명현상의 생체 내 실시간 이미징이 불가능하였으나, 최근에 수십나노미터 분해능을 가진 광학 현미경이 개발되어 기존에 볼 수 없었던 나노미터 세계를 생체 내에서 직접 관찰할 수 있게 되었다. 본 튜토리얼에서는 해상도 한계를 극복하는 다양한 물리/화학적 원리를 소개한다. 그 중 STED(Stimulated Emission Depletion), SIM(Structured Illumination Microscopy)과 단분자 중심위치 측정을 이용하는 방식(PALM/STORM/GSDIM 등 여러 이름으로 통칭됨)의 세 가지 방식에 초점을 맞추어, 이들의 작동원리, 장점, 단점 및 차이점을 논의한다. 또한, 각 방법을 어떠한 생명현상에 응용할 수 있는지 예제를 중심으로 소개하고자 한다. 덧붙여 최근 2-3년 사이에 소개된 방법들 중, 샘플 자체의 부피를 팽창시키는 방법(expansion microscopy)과 기존의 초고해상도 광학이미징의 해상도를 뛰어넘는 방법(MINIFLUX 등) 등의 이 분야의 최신동향을 살펴본다. 이를 통하여 분자 단위의 물리적 현상을 직접 세포 내에서 연구하는 생명물리연구의 방향을 제시하고자 한다.

#### [T4-as] Tutorial: Quantum entanglement and gravity

2017.10.26 (Thu) 16:00 – 17:48

Room: 103

좌장 : 조 인 용 서울과학기술대학교

Chair : CHO Inyong (Seoul National University  
of Science and Technology)

T4.01 (초) [16:00 - 16:36]

양자얽힘과 중력의 기초 / 이재원\*<sup>1</sup> (\*충원대학교, 신재생에너지학과)

최근 양자정보, 특히 양자얽힘과 중력, 더 나아가 시공간의 기원의 연관성에 대한 관심이 높아지고 있다. 본 강의에선 비국소적 양자 상관관계의 하나인 양자얽힘의 정의, 물리적 의미, 기초적인 계산법을 살펴본다. 그리고 양자얽힘과 중력, 블랙홀, AdS/CFT, 그리고 양자장론의 관련성에 대한 그간의 연구결과와 양자중력 및 우주론등에서 앞으로의 활용에 대해 간략히 알아본다.

T4.02 (초) [16:36 - 17:12]

홀로그래픽 양자얽힘 엔트로피와 중력 / 박찬용\*<sup>1</sup> (\*APCTP)

최근 다양한 물리계의 양자적 성질들을 이해하기 위해 양자얽힘에 대한 많은 연구들이 수행되고 있다. 하지만 아쉽게도 강하게 상호작용하는 물리계의 경우, 양자얽힘을 계산하는 것은 매우 어려운 일이다. 이 튜터리얼 세션에서는 홀로그래피를 이용하여 한차원 높은 중력이론에서 강하게 상호작용하는 양자얽힘을 이해하는 새로운 방법론에 대해 논의한다.

T4.03 (초) [17:12 - 17:48]

얽힘으로부터 시공간 이해하기 / 김경규\*<sup>1</sup> (\*세종대학교, 물리천문학과)

홀로그래픽 얽힘 엔트로피의 연구 이후에 이를 이용하여 시공간을 이해하려는 시도가 많은 사람들의 관심을 끌게 되었다. 그래서 본 강의에서는 이러한 시도들을 나열하고 그것들이 왜 의미가 있는 지 살펴보겠다. 특히 블랙홀이나 다른 시공간이 형성되는데 어떻게 얽힘이 작용하는지 설명하고 시공간을 기술하는 아인슈타인의 장 방정식이 어떻게 얽힘 엔트로피가 만족하는 방정식으로부터 나오는지에 대해 알아볼 것이다. 또 중력의 안정성과 얽힘 엔트로피가 어떤 관계가 있는지 간단히 다룰 것이다. 이 외에도 여러 가지 관련된 최근의 해석과 결과들에 대해 소개할 것이다.

#### [T5-co] Tutorial: Introduction to Dirac and Weyl semimetals

2017.10.27 (Fri) 11:00 – 12:48

Room: 300A

좌장 : 문 순 재 한양대

Chair : MOON Soonjae (Hanyang University)

T5.01 (초) [11:00 - 12:48] ♦ Award Winner's Presentation

Introduction to Dirac and Weyl semimetals / YANG Bohm Jung\*<sup>1</sup>

(\*Department of Physics and Astronomy, Seoul National University)

Topological semimetals describe the state of matters in which the energy gap between the conduction and valence bands is closed at several points or along lines in the momentum space. Recently discovered Dirac and Weyl semimetals are such examples. Topological semimetals can be generated either via a band inversion or due to the symmetry protected band degeneracy at a high symmetry point in the Brillouin zone. In many cases, such a band contact point or line is protected by some topological invariants, which indicates the nontrivial topological properties of the relevant semimetal state. In this talk, I am going to give a pedagogical introduction to topological semimetals including Dirac and Weyl semimetals. I'll explain the general mechanism creating various topological semimetals and describe their topological properties. Also I'll discuss how to classify possible topological semimetals based on space group symmetry. Finally, I'll describe possible unconventional topological phase transitions mediated by semimetals carrying point or line nodes.

LIST of Award Winners' Presentations

T5.01 (초) 2017. 10. 27 Friday [11:00 - 12:48] Room: 300A

**Introduction to Dirac and Weyl semimetals / YANG Bohm Jung<sup>\*1</sup>**  
(\*Department of Physics and Astronomy, Seoul National University)

B12.01 (초) 2017. 10. 25 Wednesday [16:00 - 16:24] Room: 206

**Probing Charge Transport in Highly Doped Conjugated Polymers by Solid-State Diffusion / KANG Keehoon<sup>\*1</sup>, WATANABE Shun<sup>2</sup>, BROCH Katharina<sup>3</sup>, SEPE Alessandro<sup>4</sup>, BROWN Adam<sup>5</sup>, NASRALLAH Iyad<sup>5</sup>, NIKOLKA Mark<sup>5</sup>, FEI Zhuping<sup>6</sup>, HEENEY Martin<sup>6</sup>, MATSUMOTO Daisuke<sup>7</sup>, MATSUMOTO Kazuhiro<sup>7</sup>, TANAKA Hisaaki<sup>8</sup>, KURODA Shin-ichi<sup>8</sup>, SIRRINGHAUS Henning<sup>5</sup>**  
(\*Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Department of Advanced Materials Science, University of Tokyo, <sup>3</sup>Institut für Angewandte Physik, University Tübingen, <sup>4</sup>Adolphe Merkle Institute, University of Fribourg, <sup>5</sup>Cavendish Laboratory, University of Cambridge, <sup>6</sup>Department of Chemistry and Centre for Plastic Electronics, Imperial College, <sup>7</sup>Division of Materials Science, University of Tsukuba, <sup>8</sup>Department of Applied Physics, Nagoya University)

SESSION AA

2017 October 25(Wed) 11:00–12:48

[AA7-co] See [T1-co] for ‘Tutorial: Spin-orbit coupling in strongly correlated systems’



## SESSION A

2017 October 25(Wed) 14:00–15:48

### [A1-pa] Non-accelerator-based particle physics experiments I

2017. 10. 25 Wednesday 14:00 – 15:48

Room : 101

좌장 : 박 종 철 충남대

Chair : PARK Jong-Chul (Chungnam National University)

A1.01 [14:00 - 14:12]

**Status of the AMoRE experiment** / 조현석<sup>\*1</sup> (<sup>1</sup>Center for Underground Physics, Institute for Basic Science)

A1.02 [14:12 - 14:24]

**Analysis methods and detector performance for AMoRE-Pilot** / KIM Inwook<sup>1,2,3</sup>, Seon Ho Choi<sup>1</sup>, Yong Hamb Kim<sup>\*2</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Center for Underground Physics, Institute for Basic Science, <sup>3</sup>Korea Research Institute for Standard Science, Korea Research Institute for Standard Science)

A1.03\* [14:24 - 14:36]

**AMoRE-Pilot Background Simulation** / HA Daehoon<sup>1</sup>, KIM hongjoo<sup>\*1</sup>, On behalf of the AMoRE Collaboration<sup>2</sup> (<sup>1</sup>Department of Physics, Kyungpook National University, <sup>2</sup>AMoRE Collaboration, Institute for Basic Science)

A1.04 [14:36 - 14:48]

**Measurement of Internal Contamination of <sup>40</sup>Ca<sup>100</sup>MoO<sub>4</sub> Crystals for the AMoRE-I Experiment** / 이주영<sup>1</sup>, 김홍주<sup>\*1</sup>, 이무현<sup>2</sup> (<sup>1</sup>경북대학교, 물리학과, <sup>2</sup>기초과학연구원, 지하실험연구단)

A1.05\* [14:48 - 15:00]

**Status of the COSINE-100 experiment** / PUSHPARAJ Adhikari<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sejong University)

A1.06\* [15:00 - 15:12]

**R&D projects for the COSINE experiment** / GOVINDA Adhikari<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sejong University)

A1.07 [15:12 - 15:24]

**A measurement of surface background from Pb-210 for NaI(Tl) dark matter searches** / 김경원<sup>\*1</sup> (<sup>1</sup>기초과학연구원, 지하실험연구단)

A1.08 [15:24 - 15:36]

**Low-temperature anisotropic properties of ZnWO<sub>4</sub> crystals for directional dark matter detection** / JEON Jin-A<sup>1</sup>, KIM Hyelim<sup>1</sup>, KIM

Inwook<sup>1</sup>, KIM Sora<sup>1</sup>, KIM Younghamb<sup>\*1,2</sup>, LEE Hyejin<sup>1</sup>, LEE Sunghoon<sup>1</sup>, OH Seungyoon<sup>1</sup>, HIROYUKI Sekiya<sup>3</sup> (<sup>1</sup>Center for Underground Physics, Institute for Basic Science, <sup>2</sup>Center for quantum, Korea Research Institute of Standards and Science, <sup>3</sup>Kamioka Observatory, ICRR, The University of Tokyo)

A1.09 [15:36 - 15:48]

**An improved understanding of the Ar-gas ionization chamber for alpha particle detection at Yangyang.** / 하창현<sup>\*1</sup> (<sup>1</sup>기초과학연구원, 지하실험연구단)

### [A2-st] Complex systems I

2017. 10. 25 Wednesday 14:00 – 15:48

Room : 102

좌장 : 이 덕 선 인하대학교

Chair : LEE Deok-Sun (Inha University)

A2.01 [14:00 - 14:24]

**Standing question of body-mass index** / 이수도<sup>1</sup>, 노재동<sup>2</sup>, Petter Minnhagen<sup>3</sup>, 송미영<sup>4</sup>, 전태수<sup>5</sup>, 김범준<sup>\*6</sup> (<sup>1</sup>서울대학교, 물리천문학부, <sup>2</sup>서울시립대학교, 물리학과, <sup>3</sup>Department of Physics, Umea University, <sup>4</sup>국립수산진흥원, 중앙내수면연구소, <sup>5</sup>부산대학교, 생명과학과, <sup>6</sup>성균관대학교, 물리학과)

A2.02 [14:24 - 14:36]

**The bursty-get-burstier model for correlated bursty dynamics** / JO Hang-Hyun<sup>1,2,3</sup> (<sup>1</sup>JRG, APCTP, <sup>2</sup>Department of Physics, POSTECH, <sup>3</sup>Department of Computer Science, Aalto University)

A2.03 [14:36 - 14:48]

**Algebraic Growth of Infected Cluster in Heterogenous Network** / Mi Jin Lee<sup>1</sup>, Deok-Sun Lee<sup>\*1</sup> (<sup>1</sup>Department of Physics, Inha University)

A2.04\* [14:48 - 15:00]

**Perception biases in social networks with homophily** / LEE Eun<sup>\*1</sup>, KARIMI Fariba<sup>2</sup>, JO Hang Hyun<sup>3</sup>, WAGNER Claudia<sup>2</sup>, STROHMAIER Markus<sup>2</sup> (<sup>1</sup>성균관대학교, 에너지과학, <sup>2</sup>GESIS, Computational Social Science, <sup>3</sup>Asia Pacific Center for Theoretical Physics, Statistical Physics of Complex Dynamics Lab)

A2.05\* [15:00 - 15:12]

**Efficiency of urban street network affected by street density distribution** / 이민진<sup>1</sup>, 이성민<sup>\*1</sup>, Petter Holme<sup>2</sup> (<sup>1</sup>성균관대학교, 에너지과학과, <sup>2</sup>Tokyo Institute of Technology, Institute of Innovative Research)

A2.06\* [15:12 - 15:24]

**Motifs dynamics on a network model of evolving open system** / PARK Young-Jai<sup>1</sup>, KIM Young Jin<sup>1</sup>, SON Seung-Woo<sup>\*1</sup> (<sup>1</sup>Department of Applied Physics, Hanyang University)

A2.07\* [15:24 - 15:36]

**Ranking influential spreaders is an ill-defined problem** / GU Jain<sup>1</sup>, LEE Sungmin<sup>1</sup>, SARAMAKI Jari<sup>2</sup>, HOLME Petter<sup>3</sup> (<sup>1</sup>Department of Energy Science, Sungkyunkwan University, <sup>2</sup>Department of Computer Science, Aalto University, <sup>3</sup>Institute of Innovative Research, Tokyo Institute of Technology)

A2.08\* [15:36 - 15:48]

**Expended supply-demand theory in a distribution network** / LEE Daekyung<sup>1</sup>, YANG Seong-Gyu<sup>1</sup>, KIM Kibum<sup>1</sup>, KIM Beom Jun<sup>1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University)

**[A3-pa] Field and string theory**

2017. 10. 25 Wednesday 14:00 – 15:12

Room : 103

좌장 : 정 의 현 경희대

Chair : JOUNG Euihun (Kyung Hee University)

A3.01 [14:00 - 14:12]

**Full Einstein from Entanglement First Law and Entanglement Entropy as Flux** / 신상진<sup>1</sup>, 오은석<sup>1</sup>, 박인용<sup>2</sup> (<sup>1</sup>한양대, 물리학과, <sup>2</sup>Philander Smith college, Department of Applied Mathematics)

A3.02 [14:12 - 14:24]

**Magnetic and electric properties of stongly interacting ferromagnetic material from holography** / 서윤석<sup>1</sup>, 신상진<sup>1</sup>, 송근호<sup>1</sup> (<sup>1</sup>한양대학교, 물리학과)

A3.03 [14:24 - 14:36]

**What is the Mott gap in Holography?** / SONG Geunho<sup>1</sup>, SEO Yunseok<sup>1</sup>, QI Yonghui<sup>1</sup>, SIN Sang-Jin<sup>1</sup> (<sup>1</sup>Department of Physics, Hanyang University)

A3.04 [14:36 - 14:48]

**Domain walls of massive K" {a}hler sigma models on Sp(N)/U(N) in three dimensions** / Arai Masato<sup>1</sup>, Golubtsova Anastasia<sup>2</sup>, 이범훈<sup>3</sup>, 박찬용<sup>4,5</sup>, 신선영<sup>5</sup> (<sup>1</sup>Yamagata University, Faculty of Science, <sup>2</sup>Joint Institute for Nuclear Research, Bogoliubov Laboratory of Theoretical Physics, <sup>3</sup>서강대학교, 물리학과, <sup>4</sup>포항공과대학교, 물리학과, <sup>5</sup>아시아태평양이론물리센터, 주니어 리서치 그룹)

A3.05\* [14:48 - 15:00]

**Asymptotic M5-brane entropy from S-duality** / NAHMGONG June<sup>1</sup>, KIM Seok<sup>1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

A3.06 [15:00 - 15:12]

**String Field Theory and Polyakov String Path Integral** / LEE Taejin<sup>1</sup> (<sup>1</sup>Department of Physics, Kangwon National University)

**[A4-nu] Hadron physics**

2017. 10. 25 Wednesday 14:00 – 15:36

Room : 104

좌장 : 오 용 석 경북대

Chair : OH Yongseok (Kyungpook National University)

A4.01 [14:00 - 14:12]

**Omega\_cs** / 김현철<sup>1</sup> (<sup>1</sup>인하대학교, 물리학과)

A4.02 [14:12 - 14:24]

**Vector mesons in tensor representation** / 정기상<sup>1</sup>, 오용석<sup>2</sup>, 이수형<sup>3</sup> (<sup>1</sup>아태이론물리센터, YST, <sup>2</sup>경북대학교, 물리학과, <sup>3</sup>연세대학교, 물리학과)

A4.03 [14:24 - 14:36]

**Instanton effects on the heavy-quarkonium states** / YAKHSHIEV Ulugbek<sup>1</sup>, KIM Hyun-Chul<sup>1</sup>, HIYAMA Emiko<sup>2</sup> (<sup>1</sup>Department of Physics, Inha University, <sup>2</sup>Strangeness Physics Laboratory, RIKEN)

A4.04 [14:36 - 14:48]

**Pc(4380) in a constituent quark model** / PARK Woosung<sup>1</sup>, LEE Su Houn<sup>g</sup><sup>2</sup> (<sup>1</sup>연세대학교, 물리학과, <sup>2</sup>연세대학교, 물리학과)

A4.05\* [14:48 - 15:00]

**DDσ and D\*D\*σ coupling constants** / 김희진<sup>1</sup>, 김현철<sup>1</sup> (<sup>1</sup>인하대학교, 물리학과)

A4.06 [15:00 - 15:12]

**Photo- and electroproduction of Lambda(1405) via gamma\* p --> K+ pi+ Sigma-** / 남승일<sup>1</sup> (<sup>1</sup>부경대학교, 물리학과)

A4.07\* [15:12 - 15:24]

**Masses of singly and doubly heavy baryons within the self-consistent SU(3) chiral quark-soliton model** / KIM Hyun-Chul<sup>1,3</sup>, KIM June-Young<sup>1</sup>, YANG Ghil-Seok<sup>2</sup>, PRASZALOWICZ Michal<sup>4</sup> (<sup>1</sup>Department of physics, Inha University, <sup>2</sup>Department of physics, Inha University, <sup>3</sup>Department of physics, Soongsil University, <sup>4</sup>M. Smoluchowski Institute of Physics, Jagiellonian University)

A4.08\* [15:24 - 15:36]

**Mass spectra of excited baryons in a mean-field approach** / JUN Yuson<sup>1</sup>, KIM Hyun-Chul<sup>1</sup> (<sup>1</sup>Department of Physics, Inha University)

**[A5-at] Focus: Current research trends in Attosecond Science and Technology**

2017. 10. 25 Wednesday 14:00 – 15:44

Room : 105

좌장 : 윤 혁 APRI  
Chair : YUN Hyeok (APRI)

**A5.01** [14:00 - 14:26]

**Strong field excitation using a few cycle pulse** / KIM Kyung Taec<sup>\*1,2</sup>, YUN Hyeok<sup>1</sup>, MUN Je Hoi<sup>1</sup>, HWANG Sung In<sup>1</sup>, IVANOV Igor A.<sup>1</sup>, NAM Chang Hee<sup>1,2</sup> (<sup>1</sup>Center for Relativistic Laser Science, Institute for Basic Science, <sup>2</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology)

**A5.02** [14:26 - 14:52]

**High harmonic generation in crystalline solids and its applications** / 김승철<sup>\*</sup> (<sup>1</sup>부산대학교, 나노과학기술대학 광메카트로닉스공학과)

**A5.03** [14:52 - 15:18]

**Subfemtosecond dynamics of correlated electrons** / 김다솔<sup>1</sup>, 김동언<sup>1</sup>, 이재동<sup>\*2</sup> (<sup>1</sup>POSTECH, 물리학과, <sup>2</sup>대구경북과학기술원, 신물질과학전공)

**A5.04** [15:18 - 15:44]

**Plasmonic field-enhanced high-order harmonic generation in solids** / 최낙렬<sup>1</sup>, 이민호<sup>\*1</sup>, 변창우<sup>1</sup> (<sup>1</sup>금오공과대학교, 교양교직과정부)

**[A6-se] Focus: Perovskite optoelectronic materials**

2017. 10. 25 Wednesday 14:00 – 15:36

Room : 106

좌장 : 정 문 석 성균관대학교  
Chair : JEONG Mun Seok (Sungkyunkwan University)

**A6.01** [14:00 - 14:24]

**Next-Generation Em ters: Metal Halide Perovskites** / CHO Himchan<sup>1,3</sup>, KIM Young-Hoon<sup>1,2,3</sup>, JEONG Su-Hun<sup>1,2</sup>, PARK Min-Ho<sup>1,2</sup>, KIM Hobeom<sup>1,2</sup>, LEE Tae-Woo<sup>\*1,2,3</sup> (<sup>1</sup>Department of Materials Science and Engineering, Seoul National University, <sup>2</sup>Research Institute of Advanced Materials, Seoul National University, <sup>3</sup>BK21 PLUS SNU Materials Division for Educating Creative Global Leaders, Seoul National University)

**A6.02** [14:24 - 14:48]

**Peroptronic Devices: Perovskite-Based Light-Emitting Solar Cells** / KIM Hak Beom<sup>1</sup>, YOON Young Jin<sup>1</sup>, JEONG Jaeki<sup>1</sup>, HEO Jungwoo<sup>1</sup>, JANG Hyungsu<sup>1</sup>, SEO Junghwa<sup>2</sup>, WALKER Bright<sup>1</sup>, KIM Jin Young<sup>\*1</sup> (<sup>1</sup>Department of Energy Engineering, Ulsan National Institute of Science and Technology (UNIST), <sup>2</sup>Department of Materials Physics, Dong-A University)

**A6.03** [14:48 - 15:12]

**Improvement of Device Performances in Organic–Inorganic Perovskites in Light-Emitting Diodes** / 이보람<sup>\*1</sup>, 유재철<sup>2</sup>, 이승진<sup>2</sup>, 송명훈<sup>2</sup>, 최효성<sup>3</sup>, Guillermo C. Bazan<sup>4</sup>, Richard H. Friend<sup>5</sup> (<sup>1</sup>부경대학교, 물리학과, <sup>2</sup>UNIST, 신소재공학부, <sup>3</sup>한양대학교, 화학과, <sup>4</sup>University of California, Santa Barbara, Center for Polymers and Organic Solids, <sup>5</sup>University of Cambridge, Department of Physics)

**A6.04** [15:12 - 15:36]

**Halide perovskites: Towards an age of hybrid nonlinear optical materials** / JANG Joon Ik<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sogang University)

**[E [A7-co] Pioneer: Oxides for energy application I**

2017. 10. 25 Wednesday 14:00 – 15:36

Room : 201

좌장 : 진 형 진 부산대  
Chair : JEEN Hyoung Jeen (Pusan National University)

**A7.01** [14:00 - 14:24]

**Band Structure Engineering and Defect Control of Oxides for Energy Applications** / WEI Su-Huai<sup>\*1</sup> (<sup>1</sup>Beijing Computational Science Research Center, China)

**A7.02** [14:24 - 14:48]

**Oxides for improving the performance of Li-battery cathodes** / LIU Bo<sup>\*1</sup>, WANG Youwei<sup>2</sup>, LIU Jianjun<sup>2</sup>, ZHANG Wenqing<sup>1,3</sup> (<sup>1</sup>Shanghai University, Materials Genome Institute, China, <sup>2</sup>CAS, Shanghai Institute of Ceramics, China, <sup>3</sup>Southern University of Science and Technology, China)

**A7.03** [14:48 - 15:12]

**Computational Materials Design for Developing High Performance Solid Oxide Fuel Cell Electrodes** / KIM Kyeounghak<sup>1</sup>, KWON Hyunguk<sup>1</sup>, HAN Jeong Woo<sup>\*1</sup> (<sup>1</sup>Department of Chemical Engineering, University of Seoul)

**A7.04** [15:12 - 15:36]

**Perovskite materials for energy applications** / LEE Jaekwang<sup>\*1</sup> (<sup>1</sup>Department of Physics, Pusan National University)

**[A8-co] Focus: Magnetic van der Waals materials I**

2017. 10. 25 Wednesday 14:00 – 15:48

Room : 202

좌장 : 김 원 동 한국표준과학연구원  
Chair : KIM Wondong (KRISS)

A8.01 [14:00 - 14:24]

**Magnetic van der Waals materials: opportunities and challenges**  
/ PARK Je-Geun<sup>\*1,2</sup> (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science (IBS), <sup>2</sup>Department of Physics & Astronomy, Seoul National University)

A8.02 [14:24 - 14:48]

**Raman spectroscopic studies on ordering in atomically thin antiferromagnets** / CHEONG Hyeonsik<sup>\*1</sup> (<sup>1</sup>Dept. of Physics, Sogang University)

A8.03 [14:48 - 15:12]

**Anisotropy-controlled long-range order in ultrathin ferromagnetic van der Waals metals** / 김준성<sup>\*1,2</sup> (<sup>1</sup>Center for Artificial Low Dimensional Electronic Systems, Institute of Basic Science, <sup>2</sup>Physics, POSTECH)

A8.04 [15:12 - 15:36]

**Carrier density and strain tunable magnetism in 2D transition metal chalcogenides** / JOUNG Jeil<sup>\*1</sup> (<sup>1</sup>서울시립대학교, 물리학과)

A8.05\* [15:36 - 15:48]

**Charge-spin correlation in van der Waals antiferromagnet NiPS<sub>3</sub>**  
/ KIM So Yeun<sup>\*1,2</sup> (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science (IBS), <sup>2</sup>Department of Physics & Astronomy, Seoul National University)

**[A9-co] Focus: Superconductivity in low-dimensional materials and systems I**

2017. 10. 25 Wednesday 14:00 – 15:48

Room : 203

좌장 : 최 형 준 연세대

Chair : CHOI Hyoung Joon (Yonsei University)

A9.01 [14:00 - 14:36]

**Topological Insulator Nanowire** / DOH Yong-Joo<sup>\*1</sup>, KIM Jihwan<sup>2</sup>, KIM Bum-Kyu<sup>1</sup>, KIM Hong-Seok<sup>1</sup>, HWANG Ahreum<sup>2</sup>, KIM Bongsoo<sup>2</sup> (<sup>1</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology (GIST), <sup>2</sup>Department of Chemistry, KAIST)

A9.02 [14:36 - 15:12]

**Superconductivity in Te-deficient polymorphic MoTe<sub>2-x</sub> and its derivatives: Rich structural and electronic phase transitions** / 김성웅(KIM Sungwng)<sup>\*1</sup> (<sup>1</sup>성균관대학교, 에너지과학과)

A9.03 [15:12 - 15:48]

**Pressure and chemical tuning of charge density wave and superconductivity competition in multiband superconductors**

**2H-PdxTaSe<sub>2</sub>** / JANG Dong Hyun<sup>1</sup>, BHOI Dilip<sup>1</sup>, SUR Yeahan<sup>1</sup>, KIM Chanhee<sup>1</sup>, MURATA Keizo<sup>1</sup>, KIM Kee Hoon<sup>\*1</sup> (<sup>1</sup>Department of physics and astronomy, Seoul National University, Center for Novel States of Complex Materials and Research and Institute of Applied Physics)

**[A10-co] Focus: Nano/mesoscopic system, graphene and topological materials**

2017. 10. 25 Wednesday 14:00 – 15:48

Room : 204

좌장 : 이 후 중 포항공대

Chair : LEE Hu-Jong (POSTECH)

A10.01 [14:00 - 14:36]

**Dirac-Fermion Optics in Ballistic Graphene** / 이길호<sup>\*1</sup> (<sup>1</sup>포항공과대학교, 물리학과)

A10.02 [14:36 - 15:12]

**Valley magnetoelectricity in MoS<sub>2</sub> through tuning the crystal symmetry** / LEE Jieun<sup>\*1</sup> (<sup>1</sup>Department of Physics, Ajou University)

A10.03 [15:12 - 15:48]

**Spatial-Temporal Imaging of Pure Spin-Valley Current in Transition Metal Dichalcogenides Heterostructures** / KIM Jonghwan<sup>\*1</sup> (<sup>1</sup>Department of Materials Science and Engineering, POSTECH)

**[A11-pl] Focus: Symposium for the basic fusion research & development program I**

2017. 10. 25 Wednesday 14:00 – 15:50

Room : 205

좌장 : 최 원 호 한국과학기술원

Chair : CHOE Wonho (KAIST)

A11.01 [14:00 - 14:30]

**The High Performance KSTAR Experiments and Heating and Current Drive** / 왕선정<sup>\*1</sup>, 정미<sup>1</sup>, 정진현<sup>1</sup>, 위현호<sup>1</sup>, 정상욱<sup>1</sup>, 김지현<sup>1</sup>, 나병근<sup>1</sup>, 박종구<sup>1</sup>, 오영국<sup>1</sup>, 김양수<sup>1</sup>, KSTAR Team<sup>1</sup> (<sup>1</sup>국가핵융합연구소, KSTAR 연구센터)

A11.02 [14:30 - 15:00]

**Status of ITER Project and Activities of KO Procurements** / CHUNG WooHo<sup>\*1</sup>, JUNG Kijung<sup>1</sup>, LEE Hyeon Gon<sup>1</sup>, CHO Seungyon<sup>1</sup>, OH Jong-Seok<sup>1</sup> (<sup>1</sup>National Fusion Research Institute, ITER Korea)

A11.03 [15:00 - 15:30]

**Exploration of Hybrid Scenarios in KSTAR** / NA Yong-Su<sup>\*1</sup>, LEE Y.H.<sup>1</sup>, BYUN C.S.<sup>1</sup>, KIM S.K.<sup>1</sup>, LEE C.Y.<sup>1</sup>, YANG S.M.<sup>1</sup>, JEON Y.-M.<sup>2</sup>, JEON J.W.<sup>2</sup>, KIM H.-S.<sup>2</sup>, KIM J.H.<sup>2</sup>, KO W.H.<sup>2</sup>, LEE W.C.<sup>2</sup>, WOO M.H.<sup>2</sup>, YOON S.W.<sup>2</sup>, YOON G.S.<sup>3</sup>



(<sup>1</sup>Department of Nuclear Engineering, Seoul National University, <sup>2</sup>NFRI, National Fusion Research Institute, <sup>3</sup>Department of Physics, POSTECH)

A11.04 [15:30 - 15:50]

디버터 냉각능 향상을 위한 전산유체역학 기반 형상최적화 및 3D프린팅 활용 연구 / 박영재<sup>1</sup>, 임도균<sup>2</sup>, 김석권<sup>3</sup>, 이어확<sup>3</sup>, 이동원<sup>3</sup>, 김응수<sup>2</sup>, 김형대<sup>1</sup> (<sup>1</sup>경희대학교, 원자력공학과, <sup>2</sup>서울대학교, 원자핵공학과, <sup>3</sup>한국원자력연구원, 핵융합기술개발부)

[A12-ap] Focus: Organic materials and devices I

2017. 10. 25 Wednesday 14:00 – 15:36

Room : 206

좌장 : 임 은 주 Dankook

Chair : LIM Eun Ju (Dankook University)

A12.01 [14:00 - 14:24]

Multi-Functional Organic Field Effect Transistors: Control of Ferroelectricity of P(VDF-TrFE) Copolymer via Photocrosslinking / 김태욱<sup>1</sup> (<sup>1</sup>한국과학기술연구원, 양자응용복합소재연구센터)

A12.02 [14:24 - 14:48]

Optoelectronics using quantum-dots for transparent electronics / 강성준<sup>1</sup> (<sup>1</sup>경희대학교, 정보전자신소재공학과)

A12.03\* [14:48 - 15:00]

Solution-Processed Tantalum Pentoxide for Low-Power Electronic Devices / 허정우<sup>1</sup>, 김진영<sup>1,2</sup> (<sup>1</sup>Department of Physics, UNIST, <sup>2</sup>Department of Energy Engineering, UNIST)

A12.04\* [15:00 - 15:12]

Interfacial tunneling barrier modulation governed by molecular tilt configuration and van der Waals interaction in graphene/oligophenylene thiol/Au junction / SHIN Jaeho<sup>1</sup>, YANG Seunghoon<sup>1</sup>, LEE Chulho<sup>1</sup>, WANG Gunuk<sup>1</sup> (<sup>1</sup>KU-KIST Graduate School of Converging Science & Technology, Korea University)

A12.05\* [15:12 - 15:24]

Effect of counterions on interfacial dipoles in nonconjugated polyelectrolytes / KANG Juhwan<sup>1</sup>, SEO Junghwa<sup>1</sup>, CHA Myungjoo<sup>1</sup>, WalkerBright<sup>2</sup>, PARK Yujung<sup>1</sup> (<sup>1</sup>Department of Dong-A University, Dong-A university, <sup>2</sup>School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology)

A12.06\* [15:24 - 15:36]

Improved Performance in N-Type Organic Field-Effect Transistors via Polyelectrolyte Mediated Interfacial Doping / PARK Yu Jung<sup>1</sup>,

CHA Myoung Joo<sup>1</sup>, YUN Young Jin<sup>3</sup>, CHO Shinuk<sup>2</sup>, KIM Jin Young<sup>3</sup>, SEO Jung Hwa<sup>1</sup>, WALKER Bright<sup>2,3</sup> (<sup>1</sup>Department of Materials Physics, Dong-A University, <sup>2</sup>Department of Physics and EHSRC, Ulsan University, <sup>3</sup>School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology)

[A13-co] Focus: Synchrotron x-ray studies for spintronic and advanced functional materials I

2017. 10. 25 Wednesday 14:00 – 15:36

Room : 300A

장 : 이 동 렬 송실대

Chair : LEE Dong Ryeol (Soongsil University)

A13.01 [14:00 - 14:24]

Exploring interplay between electron-electron and spin-orbit interactions with x-ray resonant scattering and spectroscopy / KIM Jong Woo<sup>1</sup> (<sup>1</sup>Argonne National Laboratory, Advanced Photon Source)

A13.02 [14:24 - 14:48]

Soft X-ray Applications for Exploring Quantum materials / LEE Jun-Sik<sup>1</sup> (<sup>1</sup>SLAC National Accelerator Laboratory, SSRL MSD Soft X-rays)

A13.03 [14:48 - 15:12]

Magnetic/electronic transitions probed with polarization dependent x-ray spectroscopy / CHOI Yongseong<sup>1</sup> (<sup>1</sup>Argonne National Laboratory, Advanced Photon Source, Magnetic Materials Group)

A13.04 [15:12 - 15:24]

In-situ observation of switchable low energy geometric ferroelectric domains / OH Yoon Seok<sup>1,2,3</sup>, HU Rongwei<sup>2,3</sup>, JEON Young Hoon<sup>4</sup>, HUANG Fei-Ting<sup>2,3</sup>, CHEONG Sang-Wook<sup>2,3,4</sup> (<sup>1</sup>Physics, UNIST, <sup>2</sup>Rutgers Center for Emergent Materials, Rutgers University, <sup>3</sup>Physics, Rutgers University, <sup>4</sup>Laboratory for Pohang Emergent Materials, POSTECH)

A13.05\* [15:24 - 15:36]

Time-resolved x-ray diffraction study for measuring photo-induced lattice movements in picosecond to microsecond time scale. / 조원혁<sup>1,2</sup>, 이수형<sup>2</sup>, 이동렬<sup>1</sup> (송실대학교, 물리학과, <sup>2</sup>한국표준과학연구원, 창의융합연구센터)

[A14-bp] Focus: Introduction to mathematical biology

2017. 10. 25 Wednesday 14:00 – 15:48

Room : 300B

좌장 : 박 성 하 Sungkyunkwan대

Chair : PARK Sung Ha (Sungkyunkwan University)

A14.01 [14:00 - 14:36]

**Mathematical modeling in the immune systems** / LEE Seongwon<sup>2</sup>, KIM Sewoong<sup>1</sup>, OH Youngmin<sup>3</sup>, HWANG Hyung Ju<sup>\*1</sup> (<sup>1</sup>Department of Mathematics, POSTECH, <sup>2</sup>Mathematics, National Institute for Mathematical Sciences, <sup>3</sup>Applied Mathematics, Beijing Computational Science Research Center)

A14.02 [14:36 - 15:12]

**수학이 생물학을 만나면 ?** / JUNG Ilhyo<sup>\*1</sup> (<sup>1</sup>부산대학교, 수학과)

A14.03 [15:12 - 15:48]

**Quantum effects in photosynthetic pigment-protein complexes** / LIM Jaemin<sup>\*1</sup>, HUELGA Susana F.<sup>1</sup>, PLENIO Martin B.<sup>1</sup> (<sup>1</sup>Institute for Theoretical Physics, Ulm University)

## SESSION B

2017 October 25(Wed) 16:00-17:48

### [B1-pa] Non-accelerator-based particle physics experiments II

2017. 10. 25 Wednesday 16:00 - 17:48

Room : 101

좌장 : 서 선 희 서울대

Chair : SEO Seon Hee (Seoul National University)

B1.01 [16:00 - 16:12]

**Production rates of  $^8\text{Li}/^9\text{He}$  at RENO** / 서현관<sup>\*4</sup>, 김우영<sup>1</sup>, Serguey<sup>1</sup>, 박명렬<sup>2</sup>, 최준호<sup>2</sup>, 장한일<sup>3</sup>, 권은향<sup>4</sup>, 김상용<sup>4</sup>, 김수봉<sup>4</sup>, 서선희<sup>4</sup>, 양정열<sup>4</sup>, 이동하<sup>4</sup>, 이용창<sup>4</sup>, 이현기<sup>4</sup>, 김종건<sup>5</sup>, 김종현<sup>5</sup>, 유인태<sup>5</sup>, 전상훈<sup>5</sup>, 정다은<sup>5</sup>, Carsten Rott<sup>6</sup>, 김재률<sup>6</sup>, 문동호<sup>6</sup>, 박경환<sup>6</sup>, 박영서<sup>6</sup>, 신창동<sup>6</sup>, 임인택<sup>6</sup>, 주경광<sup>6</sup>, 장지승<sup>7</sup>, 유종희<sup>8</sup> (<sup>1</sup>경북대학교, 물리학과, <sup>2</sup>동신대학교, 물리학과, <sup>3</sup>서영대학교, 물리학과, <sup>4</sup>서울대학교, 물리학과, <sup>5</sup>성균관대학교, 물리학과, <sup>6</sup>전남대학교, 물리학과, <sup>7</sup>GIST, 물리학과, <sup>8</sup>KAIST, 물리학과)

B1.02\* [16:12 - 16:24]

**Theta13 measurement of using neutron captures on hydrogen at RENO** / 신창동<sup>\*1</sup>, 김재률<sup>1</sup>, 문동호<sup>1</sup>, 박경환<sup>1</sup>, 박영서<sup>1</sup>, 임인택<sup>1</sup>, 주경광<sup>1</sup>, 김우영<sup>2</sup>, Serguey<sup>2</sup>, 박명렬<sup>3</sup>, 최준호<sup>3</sup>, 장한일<sup>4</sup>, 권은향<sup>5</sup>, 김상용<sup>5</sup>, 김수봉<sup>5</sup>, 서선희<sup>5</sup>, 서현관<sup>5</sup>, 양정열<sup>5</sup>, 이동하<sup>5</sup>, 이용창<sup>5</sup>, 이현기<sup>5</sup>, 김종건<sup>6</sup>, 김종현<sup>6</sup>, 유인태<sup>6</sup>, 전상훈<sup>6</sup>, 정다은<sup>6</sup>, Carsten Rott<sup>6</sup>, 장지승<sup>7</sup>, 유종희<sup>8</sup> (<sup>1</sup>전남대학교, 물리학과, <sup>2</sup>경북대학교, 물리학과, <sup>3</sup>동신대학교, 방사선학과, <sup>4</sup>서영대학교, 물리학과, <sup>5</sup>서울대학교, 물리천문학부, <sup>6</sup>성균관대학교, 물리학과, <sup>7</sup>GIST, 물리학과, <sup>8</sup>KAIST, 물리학과)

B1.03 [16:24 - 16:36]

**Precise measurement of theta13 and  $\delta m^2$  at RENO** / 김우영<sup>1</sup>, Serguey<sup>1</sup>, 박명렬<sup>2</sup>, 최준호<sup>2</sup>, 장한일<sup>3</sup>, 권은향<sup>4</sup>, 김상용<sup>4</sup>, 김수봉<sup>4</sup>, 서선희<sup>4</sup>, 서현관<sup>4</sup>, 양정열<sup>4</sup>, 이동하<sup>4</sup>, 이용창<sup>4</sup>, 이현기<sup>4</sup>, 김종건<sup>5</sup>, 김종현<sup>5</sup>, 유인태<sup>5</sup>, 전상훈<sup>5</sup>, 정다은<sup>5</sup>, Carsten Rott<sup>5</sup>, 김재률<sup>6</sup>, 문동호<sup>6</sup>, 박경환<sup>6</sup>, 박영서<sup>6</sup>, 신창동<sup>6</sup>, 임인택<sup>6</sup>, 주경광<sup>6</sup>, 장지승<sup>7</sup>, 유종희<sup>7,8</sup> (<sup>1</sup>경북대학교, 물리학과, <sup>2</sup>동신대학교, 물리학과, <sup>3</sup>서영대학교, 물리학과, <sup>4</sup>서울대학교, 물리천문학부, <sup>5</sup>성균관대학교, 물리학과, <sup>6</sup>전남대학교, 물리학과, <sup>7</sup>GIST, 물리학과, <sup>8</sup>KAIST, 물리학과)

B1.04 [16:36 - 16:48]

**Status of T2HKK/KNO Project** / SEO Seonhee<sup>\*1</sup> (1Dept. of Physics and Astronomy, Seoul National University)

B1.05 [16:48 - 17:00]

**Physics Prospect of Deep Underground Neutrino Experiment (DUNE)** / KIM Siyeon<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chung-Ang University)

B1,06 [17:00 - 17:12]

**Progress in Deep Underground Neutrino Experiment (DUNE) / KIM Siyeon<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Chung-Ang University)

B1,07 [17:12 - 17:24]

**Direct detection of WIMP wind using Nuclear emulsion / 박병도<sup>1</sup>, 손중윤<sup>1</sup>, 윤천실<sup>1</sup>, 이강영<sup>1</sup>** (<sup>1</sup>경상대학교, 물리교육과 & 기초과학연구소)

B1,08 [17:24 - 17:36]

**Search for Inelastic Boosted Dark Matter / 박종철<sup>\*1</sup>, 김두진<sup>2</sup>, 신서동<sup>3</sup>** (<sup>1</sup>충남대학교, 물리학과, <sup>2</sup>CERN, Theory Department, <sup>3</sup>연세대학교, 물리학과)

B1,09 [17:36 - 17:48]

**Gauged U(1) Clockwork Theory / LEE Hyun Min<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Chung-Ang University)

**[B2-st] Focus: Frontiers in machine learning and phase transitions**

2017. 10. 25 Wednesday 16:00 – 17:36

Room : 102

좌장 : 노재동 서울시립대학교

Chair : NOH Jae Dong (University of Seoul)

B2,01 [16:00 - 16:24]

**Critical data clustering of deep learning / 조정효<sup>\*1</sup>** (<sup>1</sup>고등과학원, 계산과학부)

B2,02 [16:24 - 16:48]

**Study on Phases of Supercritical Fluid using Machine Learning Techniques / HA Min Young<sup>1</sup>, JHO Yong Seok<sup>2</sup>, LEE Won Bo<sup>\*1</sup>** (<sup>1</sup>School of Chemical and Biological Engineering, Seoul National University, <sup>2</sup>Department of Physics, Gyeongsang National University)

B2,03 [16:48 - 17:12]

**Two local states of ambient water via machine learning classification / 조용석<sup>\*1</sup>** (<sup>1</sup>경상대학교, 물리학과)

B2,04 [17:12 - 17:36]

**Learning a discontinuous phase transition in the Hubbard model / KIM Dong-Hee<sup>\*1</sup>** (<sup>1</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology)

**[B3-pa] See [T2-pa] for 'Tutorial : Machine learning in search for new physics beyond the standard model'**

**[B4] No Session**

**[B5-at] Atoms and Molecules**

2017. 10. 25 Wednesday 16:00 – 17:44

Room : 105

좌장 : 최재윤 한국과학기술원

Chair : CHOI Jae Yoon (KAIST)

B5,01 [16:00 - 16:26]

**Coherent electronic and non-equilibrium vibrational motions in natural photosynthesis and organic photovoltaics / LIM Jaemin<sup>\*1</sup>, HUELGA Susana F.<sup>1</sup>, PLENIO Martin B.<sup>1</sup>** (<sup>1</sup>Institute for Theoretical Physics, Ulm University)

B5,02 [16:26 - 16:39]

**Realization of Polarization-synthesized Two-dimensional Optical Lattice of Neutral Atoms / GEOL Moon<sup>\*1</sup>, BRAKHANE Stefan<sup>1</sup>, RAMOLA Gautam<sup>1</sup>, ROBENS Carsten<sup>1</sup>, ALT Wolfgang<sup>1</sup>, MESCHDE Dieter<sup>1</sup>, ALBERTI Andrea<sup>1</sup>** (<sup>1</sup>Applied Physics, Bonn University)

B5,03\* [16:39 - 16:52]

**Carrier-envelope phase dependence of low energy structures in above-threshold ionized electron spectra / KIM Yang Hwan<sup>1,2</sup>, KIM Kyung Taec<sup>\*1,2</sup>** (<sup>1</sup>Center for Relativistic Laser Science, Institute for Basic Science, <sup>2</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology)

B5,04\* [16:52 - 17:05]

**도플러 선폭확대가 있는 원자계에서 생성한 광자쌍을 이용한 이-광자 간섭현상 / 박지호<sup>1</sup>, 김현오<sup>1</sup>, 문한섭<sup>\*1</sup>** (<sup>1</sup>부산대학교, 물리학과)

B5,05\* [17:05 - 17:18]

**Doppler-free coherent-control spectroscopy of atomic rubidium fine structures with a colliding pair of shaped ultrafast pulses / KIM Minhyuk<sup>1</sup>, KIM kyungtae<sup>1</sup>, CAO Dewen<sup>2,3</sup>, LEE Woojun<sup>1</sup>, KIM Hyosub<sup>1</sup>, SHUANG Feng<sup>2,3</sup>, GAO Fang<sup>2,3</sup>, AHN Jaewook<sup>\*1</sup>** (<sup>1</sup>Department of Physics, KAIST, <sup>2</sup>Institute of Intelligent Machines, Chinese Academy of Sciences, <sup>3</sup>Department of Automation, University of Science and Technology of China)

B5,06\* [17:18 - 17:31]

**Site-specific loading and detection of single atom in a 1D optical lattice / HAN Hyok Sang<sup>1</sup>, LEE Hyun Gyung<sup>1</sup>, YOON Seokchan<sup>1</sup>, D. Cho<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Korea University)

B5.07 [17:31 - 17:44]

**Fabry-Perot Interferometer with a Bilayer Lattices of Low-Temperature Atoms** / 유성미<sup>\*1</sup> (<sup>1</sup>Department of Liberal Arts, Hongik University)

**[B6-se] Focus: Quantum ring (growth/characterization/theory)**

2017. 10. 25 Wednesday 16:00 – 17:36

Room : 106

좌장 : 김 광 석 부산대학교

Chair : KYHM Kwangseuk (Pusan National University)

B6.01 [16:00 - 16:24]

**Formation of low density GaAs quantum dots/rings and drilled inverted grown InAs QDs by droplet epitaxy method** / SONG J. D.<sup>\*1</sup>, PARK S. I.<sup>1</sup>, KIM J. S.<sup>2</sup> (<sup>1</sup>Center for Opto-Electronic Convergence Systems, Korea Institute of Science and Technology, <sup>2</sup>Department of Physics, Yeungnam University)

B6.02 [16:24 - 16:48]

**단일 양자링 반도체에서 입자들의 동역학과 비선형 특성** / 제구출<sup>\*1</sup>, 김광석<sup>2</sup> (<sup>1</sup>Cyril and Methodius 대학, 물리학과, 마케도니아, <sup>2</sup>부산대학교, 광메카트로닉스공학과, 물리교육과)

B6.03 [16:48 - 17:12]

**Droplet epitaxy for the fabrication of InAs type-II quantum rings on GaSb (100) surface** / KIM Jong Su<sup>\*1</sup>, DAHIYA Vinita<sup>2,3</sup>, ZAMIRI Marziyeh<sup>2,4</sup>, KRISHNA Sanjay<sup>2,3</sup>, LEE Sang Jun<sup>5</sup>, KIM Jun Oh<sup>5</sup> (<sup>1</sup> Physics, Yeungnam University, <sup>2</sup>Center for High Technology Materials, University of New Mexico, <sup>3</sup> Electrical and Computer Engineering, Ohio State University, <sup>4</sup>University of Wisconsin, <sup>5</sup> Division of Convergence Technology, Korea Research Institute of Standards and Science)

B6.04 [17:12 - 17:36]

**Optical Aharonov-Bohm Effect in a Single Quantum Ring** / KYHM Kwangseuk<sup>\*1,2</sup> (<sup>1</sup>Department of Optics and Mechatronics Engineering, Pusan National University, <sup>2</sup>Department of Physics Education, Pusan National University)

**[B7-co] Pioneer: Oxides for energy application II**

2017. 10. 25 Wednesday 16:00 – 17:36

Room : 201

좌장 : 이 재 광 부산대

Chair : LEE Jaekwang (Pusan National University)

B7.01 [16:00 - 16:24]

**Potential and opportunities in complex oxides for advanced energy technologies** / LEE Ho Nyung<sup>\*1</sup> (<sup>1</sup>Oak Ridge National Laboratory, USA)

B7.02 [16:24 - 16:48]

**Double enhancement of thermoelectric power factor in oxide two-dimensional electron system via precise dimensionality control** / OHTA Hiromichi<sup>\*1,2</sup>, ZHANG Yu-qiao<sup>2</sup> (<sup>1</sup>Research Institute for Electronic Science, Hokkaido University, <sup>2</sup>Graduate School of Information Science and Technology, Hokkaido University)

B7.03 [16:48 - 17:12]

**High-Performance Nanogenerators with Multifunctional Triboelectric Nanomaterials** / KIM Sang-Woo<sup>\*1</sup> (<sup>1</sup>School of Advanced Materials Science and Engineering, Sungkyunkwan University (SKKU))

B7.04 [17:12 - 17:36]

**Epitaxial complex oxides for energy and environmental applications** / 진형진<sup>\*1</sup> (<sup>1</sup>부산대학교, 물리학과)

**[B8-co] Focus: Magnetic van der Waals materials II**

2017. 10. 25 Wednesday 16:00 – 17:48

Room : 202

좌장 : 정 재 일 서울시립대

Chair : JUNG Jeil (University of Seoul)

B8.01 [16:00 - 16:24]

**New 2-dimensional magnetic materials in electrides and others** / 김성웅<sup>\*1</sup> (<sup>1</sup>성균관대학교, 에너지과학과)

B8.02\* [16:24 - 16:36]

**Magnetism in two dimensional Mn di-halides through hydrogen functionalization** / FAROOQ M. Umar<sup>1</sup>, KHAN Imran<sup>1</sup>, 홍지상<sup>\*1</sup> (<sup>1</sup>부경대학교, 물리학과)

B8.03 [16:36 - 16:48]

**Enhancement of magnetic moments by bi-axial strain in 2D Fe3GeTe2 monolayer** / 남지수<sup>1</sup>, 이호식<sup>2</sup>, 이민성<sup>1</sup>, 이준희<sup>\*1</sup> (<sup>1</sup>울산과학기술원, 에너지공학과, <sup>2</sup>울산과학기술원, 원자력공학과)

B8.04\* [16:48 - 17:00]

**Magnetism in two-dimensional feroxyhyte ( $\delta$ -FeOOH): A first principles study** / KHAN Imran<sup>1</sup>, M. FAROOQ Umar<sup>1</sup>, 홍지상<sup>\*1</sup> (<sup>1</sup>부경대학교, 물리학과)

B8.05 [17:00 - 17:12]

**STM study of the monolayer VSe2 on graphene** / DUVJIR Ganbat<sup>1</sup>, LY Trinh Thi<sup>1</sup>, SAAD Mahmoud M.<sup>1</sup>, KIM Sanghwa<sup>1</sup>, CHOI Byoung Kii<sup>2</sup>, CHANG Young Jun<sup>2</sup>, KIM Jungdae<sup>\*1</sup> (<sup>1</sup>Department of Physics, and EHSRC, University of Ulsan, <sup>2</sup>Department of Physics, University of Seoul)



B8.06\* [17:12 - 17:24]

**Thickness Dependent Band alignment at the Au-MoS2 interface**  
/ GU Minseon<sup>1</sup>, PARK Youngju<sup>1</sup>, HAN Moonup<sup>\*1</sup> (<sup>1</sup>Department of Physics, University of Seoul)

B8.07\* [17:24 - 17:36]

**Built-in graphite Joule heater on monolayer MoS2 field-effect transistor for local annealing** / YUN Yoojoo<sup>1,2</sup>, JOO Min-kyu<sup>1,2</sup>, KIM Hyun<sup>1,2</sup>, PARK Jeongmin<sup>1,2</sup>, SHIN Dong Seok<sup>2</sup>, SUH Dongseok<sup>\*2</sup> (<sup>1</sup>Center for Integrated Nanostructure Physics (CINAP), Institute for Basic Science, <sup>2</sup>Department of Energy Science, Sungkyunkwan University)

B8.08\* [17:36 - 17:48]

**Classification of accidental band crossings and emergent semimetals in two-dimensional noncentrosymmetric systems**  
/ PARK Sungjoon<sup>1,2,3</sup>, YANG Bohm-Jung<sup>\*1,2,3</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>3</sup>Center for Theoretical Physics, Seoul National University)

**[B9-co] Focus: Superconductivity in low-dimensional materials and systems II**

2017. 10. 25 Wednesday 16:00 – 17:48

Room : 203

좌장 : 최 형 준 연세대

Chair : CHOI Hyoung Joon (Yonsei University)

B9.01 [16:00 - 16:36]

**Observation of novel magnetic field induced phases in a quasi-2D superconductor FeSe** / 김준성<sup>\*1,2</sup> (<sup>1</sup>Center for Artificial Low Dimensional Electronic Systems, Institute of Basic Science, <sup>2</sup>Physics, POSTECH)

B9.02 [16:36 - 17:12]

**Robust magnetism without orbital order in surface electron doped BaFe2As2** / KIM Yeong Kwan<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology)

B9.03 [17:12 - 17:48]

**Spin-polarized STM/STS studies on iron-based superconductor Sr2VO3FeAs, cuprate superconductor La-Bi2201, and strongly correlated delafossite PdCrO2.** / LEE Jinhwan<sup>\*1</sup> (<sup>1</sup>Dept of Physics, KAIST)

**[B10-co] Nano and mesoscopic physics**

2017. 10. 25 Wednesday 16:00 – 17:48

Room : 204

좌장 : 도 용 주 광주과학기술원

Chair : DOH Yong-Joo (GIST)

B10.01\* [16:00 - 16:12]

**Magnetic sensor based on 2D TMD system for ultrasensitive Hall sensitivity** / KIM Joonggyu<sup>1,2</sup>, JOO Min-Kyu<sup>1,2</sup>, LEE Gwanmu<sup>2</sup>, KIM Hyun<sup>1,2</sup>, SUH Dongseok<sup>\*2</sup> (<sup>1</sup>Center for Integrated Nanostructure Physics, Institute for Basic Science (IBS), <sup>2</sup>Department of Energy Science, Sungkyunkwan University)

B10.02\* [16:12 - 16:24]

**Quantum capacitance of surface states in Bi2Se3 nanowire** / KIM Minjin<sup>1,2</sup>, KIM Jihwan<sup>2</sup>, SUH Junho<sup>\*2</sup> (<sup>1</sup>Department of Chemistry, Korea Advanced Institute of Science and Technology (KAIST), <sup>2</sup>Quantum Measurement Center, Korea Research Institute of Standards and Science (KRISS))

B10.03 [16:24 - 16:36]

**The Josephson inductance of a InAs proximity junction embedded in a superconducting coplanar microwave resonator** / KIM Jihwan<sup>1</sup>, KIM Minjin<sup>2</sup>, SUH Junho<sup>\*1</sup> (<sup>1</sup>Quantum Measurement Center, Korea Research Institute of Standards and Science (KRISS), <sup>2</sup>Department of Chemistry, Korea Advanced Institute of Science and Technology (KAIST))

B10.04\* [16:36 - 16:48]

**Infrared spectroscopy of gated twisted bilayer graphene** / YU Kwangnam<sup>1</sup>, NGUYEN Van Luan<sup>2</sup>, KIM Tae Soo<sup>2</sup>, LEE Young Hee<sup>2</sup>, CHOI Eunjip<sup>\*1</sup> (<sup>1</sup>서울시립대학교, 물리학과, <sup>2</sup>성균관대학교, IBS 나노 구조물리 연구단)

B10.05\* [16:48 - 17:00]

**Topological semimetals induced by magnetic control of the Luttinger q-term in pyrochlore iridates** / 오태구<sup>1,2,3</sup>, 양범정<sup>\*1,2,3</sup> (<sup>1</sup>서울대학교, 물리학과, <sup>2</sup>서울대학교, 이론물리연구소, <sup>3</sup>IBS, CCES)

B10.06\* [17:00 - 17:12]

**Linking characterizes Z2 monopole charge in nodal line semimetal** / AHN Junyeong<sup>1,2,3</sup>, KIM Youngkuk<sup>4</sup>, YANG Bohm-Jung<sup>\*1,2,3</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup> Center for Theoretical Physics, Seoul National University, <sup>3</sup> Center for Correlated Electron Systems, Institute of Basic Science, <sup>4</sup> Department of Physics, Sungkyunkwan University)

B10.07 [17:12 - 17:24]

**Graphene on hexagonal Boron Nitride: emergence of tertiary Dirac points and magnetic breakdown** / MOON Pilkyung<sup>\*1,2</sup>, KOSHINO Mikito<sup>3</sup>, CHEN Guorui<sup>4</sup>, JUNG Jeil<sup>5</sup>, ZHANG Yuanbo<sup>4</sup>, WANG Lei<sup>6</sup>, DEAN Cory<sup>6</sup>, KIM Youngwook<sup>7</sup>, SMET Jurgen H.<sup>7</sup> (<sup>1</sup>Arts and Sciences, New York University Shanghai, <sup>2</sup> NYU-ECNU Institute of Physics, New York University Shanghai, <sup>3</sup> Department of Physics, Osaka University, <sup>4</sup> Department of Physics, Fudan University, <sup>5</sup> Department of Physics, University of Seoul, <sup>6</sup> Department of Physics, Columbia University, <sup>7</sup> Department of Physics, Max-Planck-Institut für

B10.08 [17:24 - 17:36]

**Quantum torque of nanoresonator coupled to molecular nanomagnets** / KIM Gwang-Hee<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Sejong University)

B10.09 [17:36 - 17:48]

**Exploring the Angstrom Excursion Dynamics of Au Nanoparticles Excited Away from a Metal Surface by an Impulsive Acoustic Pulses** / KIM Ji-Wan<sup>\*1</sup>, BIGOT Jean-Yves<sup>2</sup> (<sup>1</sup>Department of Physics, POSTECH, <sup>2</sup>Ultrafast Optics and Nanophotonics, CNRS, Institut de Physique et Chimie des Matériaux de Strasbourg)

**[B11-pl] Focus: Symposium for the basic fusion research & development program II**

2017. 10. 25 Wednesday 16:00 – 17:50

Room : 205

좌장 : 나 용 수 서울대학교

Chair : NA Yong Su (Seoul National University)

B11.01 [16:00 - 16:30]

**A Brief Introduction to Research Activities on Divertor/SOL, Plasma-Surface Interaction in KSTAR** / 홍석호<sup>\*1</sup> (<sup>1</sup>국가핵융합연구소, DEMO기술연구부)

B11.02 [16:30 - 17:00]

**플라즈마-텅스텐 상호작용 해석을 위한 수소 흡착 모델 개발** / 진영길<sup>\*1</sup>, 김남균<sup>1</sup>, 송재민<sup>1</sup>, 노기백<sup>1</sup>, 김곤호<sup>1</sup> (<sup>1</sup>서울대학교, 에너지시스템공학부)

B11.03 [17:00 - 17:30]

**Plasma diagnostics using laser-plasma-produced THz waves** / SUK H.<sup>\*1</sup>, KANG K. K.<sup>1</sup>, ROH Y.<sup>1</sup>, JANG D.<sup>1</sup>, SUK H.<sup>1</sup> (<sup>1</sup>Department of Physics and Photon Science, GIST)

B11.04 [17:30 - 17:50]

**Measurement of hydrogen-isotope permeation and retention in fusion materials** / NOH S. J.<sup>\*1</sup>, KIM H. S.<sup>1</sup>, BYEON W. J.<sup>1</sup>, LEE Cheol Eui<sup>2</sup>, KIM Jaeyong<sup>3</sup>, KIM Dong Min<sup>4</sup> (<sup>1</sup>Department of Physics, Dankook University, <sup>2</sup>Department of Physics, Korea University, <sup>3</sup>Department of Physics, Hanyang University, <sup>4</sup>Department of Materials Science and Engineering, Hongik University)

**[B12-ap] Focus: Organic materials and devices II**

2017. 10. 25 Wednesday 16:00 – 17:24

Room : 206

좌장 : 김 진 영 울산과학기술원

Chair: KIM Jin Young (UNIST)

B12.01 [16:00 - 16:24] ❖ Award Winner's Presentation

**Probing Charge Transport in Highly Doped Conjugated Polymers by Solid-State Diffusion** / KANG Keehoon<sup>\*1</sup>, WATANABE Shun<sup>2</sup>, BROCH Katharina<sup>3</sup>, SEPE Alessandro<sup>4</sup>, BROWN Adam<sup>5</sup>, NASRALLAH Iyad<sup>5</sup>, NIKOLKA Mark<sup>5</sup>, FEI Zhuping<sup>6</sup>, HEENEY Martin<sup>6</sup>, MATSUMOTO Daisuke<sup>7</sup>, MATSUMOTO Kazuhiro<sup>7</sup>, TANAKA Hisaaki<sup>8</sup>, KURODA Shin-ichi<sup>8</sup>, SIRRINGHAUS Henning<sup>5</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Department of Advanced Materials Science, University of Tokyo, <sup>3</sup>Institut für Angewandte Physik, University Tübingen, <sup>4</sup>Adolphe Merkle Institute, University of Fribourg, <sup>5</sup>Cavendish Laboratory, University of Cambridge, <sup>6</sup>Department of Chemistry and Centre for Plastic Electronics, Imperial College, <sup>7</sup>Division of Materials Science, University of Tsukuba, <sup>8</sup>Department of Applied Physics, Nagoya University)

B12.02 [16:24 - 16:36]

**Poly (metal 1,1,2,2-ethenetetrathiolate)s for solution processed organic thermoelectric generator** / HWANG Sunbin<sup>1</sup>, KIM Tae-Wook<sup>\*1</sup> (<sup>1</sup>Applied Quantum Composites Research Center, Korea Institute of Science and Technology (KIST))

B12.03 [16:36 - 16:48]

**Unveiling the Electronic Structure of ZnO-C60 Core-Shell Quantum Dots: The Origin of Efficient Electron Transport** / HYUN Gyeongho<sup>1</sup>, PARK Soohyung<sup>1</sup>, JEONG Junkyeon<sup>1</sup>, LEE Kyu Seung<sup>2</sup>, SON Dong Ick<sup>2</sup>, LEE Hyunbok<sup>3</sup>, YI Yeonjin<sup>\*1</sup> (<sup>1</sup>Department of Physics, Yonsei University, <sup>2</sup>Institute of Advanced Composite Materials, Korea Institute of Science and Technology, <sup>3</sup>Department of Physics, Kangwon National University)

B12.04\* [16:48 - 17:00]

**Fabrication of microbial battery with carbon nanomaterials for high efficient organic semiconductor devices** / 안성진<sup>1</sup>, 임은주<sup>\*2</sup> (<sup>1</sup>단국대학교, 창의융합제조공학과, <sup>2</sup>단국대학교, 과학교육학과)

B12.05\* [17:00 - 17:12]

**Controllable charge transport in molecular junctions engineered by chemical p-doping of graphene electrodes** / 장연식<sup>1</sup>, 권성주<sup>2</sup>, 신재호<sup>3</sup>, 정현학<sup>1</sup>, 황왕택<sup>1</sup>, 김준우<sup>1</sup>, 구정민<sup>1</sup>, 왕건욱<sup>3</sup>, 이태우<sup>4</sup>, 이택희<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, and Institute of Applied Physics, Seoul National University, <sup>2</sup>Department of Materials Science and Engineering, Pohang University of Science and Technology, <sup>3</sup>KU-KIST Graduate School of Converging Science and Technology, Korea University, <sup>4</sup>Department of Material Science and Engineering, Seoul National University)

B12.06 [17:12 - 17:24]

**From micron size Coulter Cell Counter to Nanometre size Single molecule sensor** / CHOI Seong Soo<sup>\*1,4</sup>, PARK Myoung Jin<sup>2</sup>, KIM Kyoung Jin<sup>1</sup>, HAN Chul Hee<sup>1</sup>, OH Sae Joong<sup>1</sup>, CHOI Soo Bong<sup>3</sup>, KIM Yong-Sang<sup>4</sup>, PARK Nam Kyou<sup>5</sup> (<sup>1</sup>Research Center for Nano-Bio Science, SunMoon University,

<sup>2</sup>Physics, Korea Military Academy, <sup>3</sup>Physics, Incheon National University, <sup>4</sup>School of Electronic and Electrical Engineering, Sungkyunkwan University, <sup>5</sup>School of Electrical Engineering, Seoul National University)

B12.07\* [17:24 - 17:36]

**Surface Electrical Properties of Organic-Inorganic Lead-Free Halide Mesoporous Perovskite Solar Cells** / NGUYEN Bich Phuong<sup>1</sup>, JUNG Hye Ri<sup>1</sup>, NGUYEN Thi Thu Trang<sup>1</sup>, YOON Seokhyun<sup>1</sup>, JO William<sup>\*1</sup>  
(<sup>1</sup>Department of physics, New and Renewable Energy Research Center (NREC), Ewha Womans University)

[B13-co] Focus: Synchrotron x-ray studies for spintronic and advanced functional materials II

2017. 10. 25 Wednesday 16:00 – 17:36

Room : 300A

좌장 : 이 동 렬 송실대

Chair : LEE Dong Ryeol (Soongsil University)

B13.01 [16:00 - 16:24]

**Current-driven creation, translation, and annihilation of ferrimagnetic skyrmions observed by scanning transmission X-ray microscopy** / CHOI Jun Woo<sup>\*1</sup>, WOO Seonghoon<sup>1</sup>, SONG Kyung Mee<sup>2</sup>  
(<sup>1</sup> Center for Spintronics, Korea Institute of Science and Technology, <sup>2</sup> Department of Physics, Sookmyung Women's University)

B13.02 [16:24 - 16:48]

**Exploring Quantum Emergent Properties using Resonant Inelastic X-ray Scattering** / CHANG Seo Hyoung<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chung-Ang University)

B13.03 [16:48 - 17:12]

**Symmetry breaking in 3D flux-closure domain structure** / HAN Hee-Sung<sup>1</sup>, LEE Sooseok<sup>1</sup>, KIM Namkyu<sup>1</sup>, IM Mi-Young<sup>2,3</sup>, YU Young-Sang<sup>4</sup>, HONG Jung-Il<sup>3,4</sup>, LEE Ki-Suk<sup>\*1</sup> (<sup>1</sup>School of Materials Science and Engineering, Ulsan National Institute of Science and Technology (UNIST), <sup>2</sup>Center for X-ray Optics, Lawrence Berkeley National Laboratory, <sup>3</sup>Emerging Materials Science, Daegu Gyeongbuk Institute of Science and Technology (DGIST), <sup>4</sup>Advanced Light Source, Lawrence Berkeley National Laboratory)

B13.04\* [17:12 - 17:24]

**Synchrotron x-ray study of hydrogen-induced phase transition in VO2 epitaxial thin films** / 윤효진<sup>1</sup>, 최민석<sup>2,3</sup>, 박재성<sup>1</sup>, 임태원<sup>2</sup>, 임규욱<sup>4</sup>, 최시영<sup>1,2</sup>, 손준우<sup>\*1</sup> (<sup>1</sup>POSTECH, 신소재공학과, <sup>2</sup>재료연구소, 재료설계분석연구실, <sup>3</sup>인하대학교, 물리학과, <sup>4</sup>포항가속기연구소, 나노계면연구팀)

B13.05\* [17:24 - 17:36]

**Study of the Magnetic Proximity Effect in Pd/Co/Pd and Pt/Co/Pt trilayer systems using X-ray Resonant Magnetic Scattering** / KIM Dong-Ok<sup>1,2</sup>, SONG KyungMee<sup>2,3</sup>, CHOI Yongseong<sup>4</sup>, Min Byoung-Chul<sup>2</sup>, KIM Jae-Sung<sup>3</sup>, CHOI JunWoo<sup>2</sup>, LEE DongRyeol<sup>\*1</sup> (<sup>1</sup>Department of Physics, Soongsil University, <sup>2</sup>Center for Spintronics, Korea Institute of Science and Technology, <sup>3</sup>Department of Physics, Sookmyung Women's University, <sup>4</sup>Advanced Photon Source, Argonne National Laboratory)

[B14-bp] See [T3-bp] for 'Tutorial: Super-resolution imaging'

[B15-or] 중이온가속기 구축사업 현황소개 특별세션  
Heavy-Ion accelerator facility

2017.10.25 (Wed) 16:00 – 17:48

Room : 300C

좌장 : 홍 병 식 고려대

Chair : HONG Byungsik (Korea University)

B15.01 [16:05 - 16:30]

가속기운영현황 발표 / 정순찬 (중이온가속기사업단장)

B15.02 [16:30 - 17:00]

가속기 현황점검분과발표 / 김용균 (총괄 및 사업관리 분과장), 홍승우 (활용 분과장), 조용섭 (가속기 분과장)

## SESSION C

2017 October 26(Thu) 9:00–10:48

### **E [C1-pa] Pioneer: Dark matter and a new physics I**

2017, 10, 26 Thursday 09:00 – 10:48

Room : 101

좌장 : 윤 성 우 IBS-CAPP

Chair: YOUN SungWoo (IBS-CAPP)

C1.01 [09:00 - 09:36]

#### **Bose-Einstein Condensation of Dark Matter Axions / SIKIVIE Pierre\*<sup>1</sup>**

(<sup>1</sup>USA, University of Florida)

C1.02 [09:36 - 10:12]

#### **Hunting for answers for the Dark matter and matter-antimatter questions / SEMERTZIDIS Yannis K.\*<sup>1</sup>**

(<sup>1</sup>IBS/CAPP, KAIST)

C1.03 [10:12 - 10:48]

#### **Light axino dark matter from freeze-in production / BAE Kyu Jung\*<sup>1</sup>**

(<sup>1</sup>Center for Theoretical Physics of the Universe, Institute for Basic Science)

### **[C2-pa] Accelerator-based particle physics experiments I**

2017, 10, 26 Thursday 09:00 – 10:24

Room : 102

좌장 : 최 기 영 성균관대

Chair : CHOI Ki-Young (Sungkyunkwan University)

C2.01 [09:00 - 09:12]

#### **Overview of the Electromagnetic Calorimeter Trigger System at the Belle II Experiment / 김성현<sup>1</sup>, 이인수<sup>1</sup>, 김철훈<sup>1</sup>, 조한열<sup>1</sup>, UNNO Y.<sup>1</sup>, 천병구<sup>1</sup>, 김영준<sup>2</sup>, 최원지<sup>2</sup>, 안정근<sup>2</sup>**

(<sup>1</sup>한양대학교, 물리학과, <sup>2</sup>고려대학교, 물리학과)

C2.02\* [09:12 - 09:24]

#### **Search for CP violation using T-odd correlations in $D^0 \rightarrow K+K-\pi+\pi-$ decay / 김재박<sup>1</sup>, 원은일<sup>1</sup>**

(<sup>1</sup>고려대학교, 물리학과)

C2.03 [09:24 - 09:36]

#### **Prospects for the CKM angle $\phi_3$ at Belle II / WATSON Ian James\*<sup>1</sup>**

(<sup>1</sup>Department of Physics, University of Seoul)

C2.04\* [09:36 - 09:48]

#### **KOTO 실험 $K_L^0 \rightarrow \pi^0 \pi^0 \pi^0$ 을 재구성을 이용한 표본형 열량계의 성능 평가 / 김준이<sup>1</sup>, 안정근<sup>1</sup>, 이종원<sup>1</sup>, 김은주<sup>2</sup>, 임계엽<sup>3</sup>**

(<sup>1</sup>고려대학교, 물리학과, <sup>2</sup>전북대학교, 물리교육학과, <sup>3</sup>KEK, Hadron)

C2.05 [09:48 - 10:00]

#### **Time-Of-Flight detector of the GBAR experiment / LEE Ahram<sup>1</sup>, KIM Sun Kee\*<sup>1</sup>**

(<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

C2.06 [10:00 - 10:12]

#### **Current Status of the SHiP Experiment / 김성현<sup>1</sup>, 박병도<sup>1</sup>, 손종윤<sup>1</sup>, 윤천실<sup>1</sup>, 이강영<sup>1</sup>, 박성근<sup>2</sup>, 이경세<sup>2</sup>, 김영균<sup>3</sup>, 최기영<sup>4</sup>, 고재우<sup>5</sup>, 우종관<sup>5</sup>**

(<sup>1</sup>경상대학교, 물리교육과 & 기초과학연구소, <sup>2</sup>고려대학교, 물리학과, <sup>3</sup>광주교육대학교, 물리교육과, <sup>4</sup>성균관대학교, 물리학과, <sup>5</sup>제주대학교, 물리학과)

C2.07 [10:12 - 10:24]

#### **Direct detection of light dark matter at SHiP / 최기영<sup>1</sup>, 김성현<sup>2</sup>, 김영균<sup>3</sup>, 고재우<sup>4</sup>, 이강영<sup>2</sup>, 이경세<sup>5</sup>, 박병도<sup>2</sup>, 박성근<sup>5</sup>, 손종윤<sup>2</sup>, 우종관<sup>4</sup>, 윤천실<sup>2</sup>**

(<sup>1</sup>성균관대학교, 물리학과, <sup>2</sup>경상대학교, 물리교육과 & 기초과학연구소, <sup>3</sup>광주교육대학교, 과학교육과, <sup>4</sup>제주대학교, 물리학과, <sup>5</sup>고려대학교, 물리학과)

### **[C3-as] Focus: Gravitational wave astronomy I**

2017, 10, 26 Thursday 09:00 – 10:48

Room : 103

좌장 : 이 창 환 부산대학교

Chair : LEE Chang Hwan (Pusan National University)

C3.01 [09:00 - 09:36]

#### **Gravitational Wave Astrophysics / 이형목<sup>1</sup>**

(<sup>1</sup>서울대학교, 물리천문학부)

C3.02 [09:36 - 10:12]

#### **Properties of light propagating through gravitational waves / KANG Gungwon<sup>1</sup>, CHO Kyuman\*<sup>2</sup>**

(<sup>1</sup>Division of Supercomputing, Korea Institute of Science and Technology Information, <sup>2</sup>Department of Physics, Sogang University)

C3.03 [10:12 - 10:48]

#### **KAGRA Status and Parameter Estimation / 이형원<sup>1</sup>, 김정초<sup>1</sup>, 김정리<sup>2</sup>**

(<sup>1</sup>인제대학교, 컴퓨터시뮬레이션학과, <sup>2</sup>한국천문연구원, 이론천문연구센터)

### **[C4-nu] Nuclear Exp. Method etc. I**

2017, 10, 26 Thursday 9:00 – 10:48

Room : 104

좌장 : 유 인 권 부산대

Chair : YOO In-Kwon (Pusan National University)

C4.01\* [9:00 - 9:12]

#### **The Comparative Analysis of Rectangular- and Helical-type DC Electromagnetic Pump for ADHRS in PGSFR / LEE Geunhyeong<sup>1</sup>, KIM Heereyoung<sup>1</sup>**

(<sup>1</sup>Department of Nuclear Engineering, Ulsan National Institute of Science and Technology)

C4.02 [9:12 - 9:24]

**Test of a Prototype Neutron Detector Array for high-LAMPS at RCNP** / 심현하<sup>1</sup>, 홍병식<sup>1</sup>, 안정근<sup>1</sup>, 이종원<sup>1</sup>, Benard Mulilo<sup>1</sup> (<sup>1</sup>고려대학교, 물리학과)

C4.03 [9:24 - 9:36]

**Development Status of Target and Ion Source System for RISP** / HONG Sung Gwang<sup>1</sup>, PARK Sung Jong<sup>1</sup>, HWANG Wonjoo<sup>1</sup>, JEONG Jae Won<sup>1</sup>, JOUNG Mi Jeong<sup>1</sup>, KIM Jang Youl<sup>1</sup>, ISHIYAMA Hironobu<sup>1</sup>, LEE Jin Ho<sup>1</sup>, KANG Byoung Hwi<sup>1</sup>, JEONG Sun Chan<sup>1</sup> (<sup>1</sup>Rare Isotope Science Project, Institute for Basic Science)

C4.04 [9:36 - 9:48]

**한국의 가스전자증배기 생산 현황** / 박인규<sup>1</sup>, 정영균<sup>1</sup>, 장세덕<sup>1</sup>, 송동현<sup>1</sup>, 박덕환<sup>1</sup>, 최민규<sup>1</sup>, 이상훈<sup>1</sup>, 양운기<sup>2</sup>, 윤인석<sup>2</sup>, 오성빈<sup>2</sup>, 이한열<sup>2</sup>, 최수용<sup>3</sup>, 최영일<sup>4</sup>, 유인태<sup>4</sup>, 이용훈<sup>4</sup>, 이세욱<sup>5</sup>, 문동호<sup>6</sup>, 김현수<sup>7</sup>, 김태정<sup>8</sup>, 정태성<sup>9</sup>, 김근호<sup>9</sup>, 유연수<sup>9</sup>, 김태준<sup>9</sup> (<sup>1</sup>서울시립대학교, 물리학과, <sup>2</sup>서울대학교, 물리학과, <sup>3</sup>고려대학교, 물리학과, <sup>4</sup>성균관대학교, 물리학과, <sup>5</sup>경북대학교, 물리학과, <sup>6</sup>전남대학교, 물리학과, <sup>7</sup>세종대학교, 물리학과, <sup>8</sup>한양대학교, 물리학과, <sup>9</sup>(주) 메카로, 젠사업부)

C4.05 [9:48 - 10:00]

**Pulse-shape Analysis of the Prototype Neutron Detectors for LAMPS at RAON** / MULILO Benard<sup>1</sup>, LEE Jong-Won<sup>1</sup>, SHIM Hyunah<sup>1</sup>, HONG Byungsik<sup>1</sup>, AHN Jung Keun<sup>1</sup> (<sup>1</sup>Department of Physics, Korea University)

C4.06\* [10:00 - 10:12]

**Development of Tl2Gd(1-x)CexCl5 (x= 0, 1, 5, 10 mole%) scintillator for X- and γ-ray detection** / KHAN Arshad<sup>1</sup>, ROOH Gul<sup>2</sup>, KIM H. J.<sup>1</sup>, PARK Hwanbae<sup>1</sup>, KIM Sunghwan<sup>3</sup> (<sup>1</sup>Department of Physics, Kyungpook National University, <sup>2</sup>Department of Physics, Abdul Wali Khan University, Mardan, 23200, Pakistan, <sup>3</sup>Department of Physics, Cheongju University)

C4.07 [10:12 - 10:24]

**PPAC development and beam test for the KOBRA spectrometer** / AKERS Charles<sup>1</sup>, 이광복<sup>1</sup>, 김영진<sup>1</sup>, 류민상<sup>1</sup>, 김은희<sup>1</sup>, 이효상<sup>1</sup>, 박진형<sup>1</sup> (<sup>1</sup>기초과학연구원, Rare Isotope Science Project)

C4.08 [10:24 - 10:36]

**RAON: Isotope Separation On-Line 시설 개발 현황 및 진행 계획** / 강병휘<sup>1</sup>, Ishiyama Hironobu<sup>1</sup>, 이진호<sup>1</sup>, 박성중<sup>1</sup>, 우형주<sup>1</sup>, 김장열<sup>1</sup>, 권영관<sup>1</sup>, 편성재<sup>1</sup>, 황원주<sup>1</sup>, 정재원<sup>1</sup>, 박영호<sup>1</sup>, 추경호<sup>1</sup>, 양창목<sup>3</sup>, 유명준<sup>3</sup>, 나상호<sup>1</sup>, 김용균<sup>2</sup>, 서창식<sup>1</sup>, 정순찬<sup>1</sup> (<sup>1</sup>기초과학연구원, RISP, <sup>2</sup>한양대학교, 원자력공학과, <sup>3</sup>한전원자력연료 주식회사, 세라믹기술팀)

C4.09 [10:36 - 10:48]

**Present design status of KoBRA (Korea Broad acceptance Recoil**

**spectrometer and Apparatus) for Rare Isotope Science Project (RISP)** / TSHOO K.<sup>1</sup>, PARK J.<sup>2</sup>, CHAE H.<sup>3</sup>, KAWG M.S.<sup>4</sup>, KWON Y.K.<sup>1</sup>, KANG B.-H.<sup>1</sup>, SOULIOTIS G.A.<sup>10</sup>, BERG G.P.A.<sup>5</sup>, KATO S.<sup>6</sup>, KUBONO S.<sup>7</sup>, CHOI S.<sup>3</sup>, KIM Y.K.<sup>2</sup>, CHAE K.Y.<sup>4</sup>, MOON C.-B.<sup>8</sup>, HAHN I.S.<sup>9</sup>, JEONG S.C.<sup>1</sup>, HASHIMOTO T.<sup>1</sup>, MOON J.Y.<sup>1</sup> (<sup>1</sup>Rare Isotope Science Project, Institute for Basic Science, <sup>2</sup>Department of Nuclear Engineering, Hanyang University, <sup>3</sup>Department of Physics and Astronomy, Seoul National University, <sup>4</sup>Department of Physics, Sungkyunkwan University, <sup>5</sup>Department of Physics and The Joint Institute for Nuclear Astrophysics, University of Notre Dame, <sup>6</sup>Department of Physics, Yamagata University, <sup>7</sup>RIKEN, Nishina Center, <sup>8</sup>Department of Display Engineering, Hoseo University, <sup>9</sup>Department of Science Education, Ewha Womans University, <sup>10</sup>Department of Chemistry, National and Kapodistrian University of Athens and Hellenic Institute of Nuclear Physics)

#### [C5-at] Quantum Computing

2017. 10. 26 Thursday 09:00 – 10:44

Room : 105

좌장 : 신 희 득 포항공대

Chair : SHIN Hee-Deuk (POSTECH)

C5.01 [09:00 - 09:13]

**자기쌍극자 상호작용으로 결합된 다이아몬드 내 다중 큐비트 생성** / 백서영<sup>1</sup>, 이상윤<sup>1</sup>, JAKOBI Ingmar<sup>2</sup>, MOMENZADEH Ali<sup>2</sup>, DENISENKO Andrej<sup>2</sup>, REUTER Rolf<sup>2</sup>, WRACHTRUP Joerg<sup>2</sup>, 조영욱<sup>1</sup>, 김용수<sup>1</sup>, 한상욱<sup>1</sup>, Andrej Denisenko<sup>2</sup>, Rolf Reuter<sup>2</sup>, Joerg Wrachtrup<sup>2</sup>, 문성욱<sup>1</sup> (<sup>1</sup>한국과학기술연구원, 양자정보 연구단, <sup>2</sup>3rd Physical Institute, University of Stuttgart)

C5.02 [09:13 - 09:26]

**Implementation of Gate Set Tomography on Superconducting Transmon Qubit for Characterization and Optimization of Single Qubit Gates** / NOH Taewan<sup>1</sup>, PARK Gwanyeo<sup>1,2</sup>, CHOI Gahyun<sup>1,3</sup>, CHOI Jiman<sup>1,4</sup>, SONG Woon<sup>1</sup>, LEE Soon Gul<sup>2</sup>, PARK Gibog<sup>3</sup>, CHONG Yonuk<sup>1</sup> (<sup>1</sup>KRISS, Korea, <sup>2</sup>Korea University Sejong Campus, Korea, <sup>3</sup>UNIST, Korea, <sup>4</sup>UST, Korea)

C5.03 [09:26 - 09:39]

**Quantum Compiler and Quantum Virtual Machine** / HWANG Yongsoo<sup>1</sup>, BAEK Chungheon<sup>1</sup>, CHOI Byung-Soo<sup>1</sup> (<sup>1</sup>Quantum Creative Research Section, Electronics and Telecommunications Research Institute)

C5.04 [09:39 - 09:52]

**양자 컴퓨팅 성능 평가** / 최병수<sup>1</sup>, 황용수<sup>1</sup>, 김태완<sup>1</sup>, 백종찬<sup>1</sup> (<sup>1</sup>한국전자통신연구원, 양자창의연구실)

C5.05 [09:52 - 10:05]

**Demonstration of Two-Qubit Algorithms in Superconducting Qubit System** / NOH Taewan<sup>1</sup>, PARK Gwanyeo<sup>1,2</sup>, CHOI Gahyun<sup>1,3</sup>, CHOI Jiman<sup>1,4</sup>, SONG Woon<sup>1</sup>, LEE Soongul<sup>2</sup>, PARK Kibog<sup>3</sup>, CHONG Yonuk<sup>1,4</sup> (<sup>1</sup>Center

for Quantum Measurement, Korea Research Institute of Standards and Science, <sup>2</sup>Department of Applied Physics, Korea University Sejong Campus, <sup>3</sup>Department of Physics, Ulsan National Institute of Science and Technology, <sup>4</sup>Department of Science of Measurement, University of Science and Technology)

C5.06 [10:05 - 10:18]

**양자 컴퓨팅 성능에 대한 큐비트 레이아웃 (Layout) 의 영향 / 황용수<sup>1</sup>, 김태완<sup>1</sup>, 백충현<sup>1</sup>, 최병수<sup>1</sup>** (<sup>1</sup>한국전자통신연구원, 양자창의연구실)

C5.07\* [10:18 - 10:31]

**Squeezing microwave photon using a Josephson parametric amplifier / CHOI Gahyun<sup>1,2</sup>, NOH Taewan<sup>1</sup>, PARK Gwanyol<sup>1,3</sup>, CHOI Jiman<sup>1,4</sup>, PARK Kibog<sup>2</sup>, LEE Soongul<sup>3</sup>, SONG Woon<sup>1</sup>, CHONG Yonuk<sup>1,4</sup>** (<sup>1</sup>Quantum Measurement Science, Korea Research Institute of Standards and Science (KRISS), <sup>2</sup>Department of Physics, Ulsan National Institute of Science and Technology (UNIST), <sup>3</sup>Department of Physics, Korea University, <sup>4</sup>Science of Measurement, University of Science and Technology (UST))

C5.08 [10:31 - 10:44]

**3 큐비트 양자 오류 정정부호의 유효성 및 논리적 큐비트의 연산 가능시간에 대한 전산 모사 분석 / 백충현<sup>1</sup>, 황용수<sup>1</sup>, 김태완<sup>1</sup>, 최병수<sup>1</sup>** (<sup>1</sup>ETRI, 양자창의연구실)

**E [C6-se] Pioneer: Energy harvesting technologies I**

2017. 10. 26 Thursday 9:00 – 11:00

Room : 106

좌장 : Prof. Tokumitsu JAIST

Chair : Prof. Tokumitsu (JAIST)

C6.01 [9:00 - 9:24]

**Optoelectronic and transport properties of organic-inorganic methylammonium lead halide crystals and thin-films / JO William<sup>1</sup>, JUNG Hye Ri<sup>1</sup>, NGUYEN Bich Phuong<sup>1</sup>, KIM Gee Yeong<sup>1</sup>** (<sup>1</sup>Department of Physics and New and Renewable Energy Research Center (NREC), Ewha Womans University)

C6.02 [9:24 - 9:48]

**Flexible voltage generator based on movement of electrolyte droplet on carbon nanotube thin film / OHNO Yutaka<sup>1</sup>** (<sup>1</sup>Institute of Materials and Systems for Sustainability, Japan, Nagoya University)

C6.03 [9:48 - 10:12]

**Piezoelectric Properties of ZnO Nanorod/Graphene and Vertically Aligned Phase Nanopillars for Nanogenerator Applications / SHIN Dongmyeong<sup>1</sup>, HONG Sukwon<sup>2</sup>, OH Jinwoo<sup>1,3</sup>, KIM Hyungkook<sup>1,3</sup>, HWANG Yoonhwa<sup>1,3</sup>** (<sup>1</sup>Department of Nanoconvergence Technology, Pusan National University, <sup>2</sup>Department of Cogno-Mechatronics Engineering, Pusan National

University, <sup>3</sup>Department of Nanoenergy Engineering, Pusan National University)

C6.04 [10:12 - 10:36]

**Solar-Thermophotovoltaic Systems Based on Controlling Unidirectional Radiative Heat Transfer with a Monolithic Absorber/Emitter / YUGAMI Hiroo<sup>1</sup>, SHIMIZU Makoto<sup>1</sup>, KOHIYAMA Asaka<sup>1</sup>** (<sup>1</sup>Graduate School of Engineering, Tohoku University)

C6.05 [10:36 - 11:00]

**A highly-efficient, concentrating-photovoltaic/thermoelectric hybrid generator / BAEK Seung-Hyub<sup>1</sup>** (<sup>1</sup>Center for Electronic Materials, Korea Institute of Science and Technology)

**E [C7-co] Pioneer: Non-equilibrium first-principles calculations for energy applications I**

2017. 10. 26 Thursday 9:00 – 10:48

Room : 201

좌장 : 김 용 훈 한국과학기술원

Chair : KIM Yong-Hoon (KAIST)

C7.01 [9:00 - 9:36]

**Localized Orbital Scaling Correction for Systematic Elimination of Delocalization Error in Density Functional Approximations / YANG Weitao<sup>1</sup>** (<sup>1</sup>Department of Chemistry and Department of Physics, Duke University Durham)

C7.02 [9:36 - 10:00]

**First-principles based non-equilibrium Green's function simulations of low-power semiconductor devices / SHIN Mincheol<sup>1</sup>** (<sup>1</sup>School of Electrical Engineering, Korea Advanced Institute of Science and Technology)

C7.03 [10:00 - 10:24]

**Light-induced electric- and magnetic-dipoles in dynamic photocatalysts and directional optical switches / LEE Jun Hee<sup>1</sup>** (<sup>1</sup>School of Energy and Chemical Engineering, UNIST)

C7.04 [10:24 - 10:48]

**Inclusion of Environmental Effect to Electronic Structure Calculations using Grid-based Mean-field Coupling of MD and DFT / KIM Hyungjun<sup>1</sup>, LIM Hyung-Kyoo<sup>1</sup>** (<sup>1</sup>EEWS, Korea Advance Institute of Science and Technology)



**[C8-co] Surface/Interface/Nanomaterials**

2017. 10. 26 Thursday 9:00 – 10:48

Room : 202

좌장 : 김 정 대 울산대학교

Chair : KIM Jungdae (University of Ulsan)

**C8.01\*** [9:00 - 9:12]

**Ferromagnetic property of electron-doped Si(5 5 12)2 × 1 / YEO Kangmo<sup>1</sup>, JEONG Sukmin<sup>\*1</sup>** (<sup>1</sup>Department of Physics and Reasarch Institute of Physics and Chemistry, Chonbuk National University)

**C8.02** [9:12 - 9:24]

**X-ray spectroscopy study of the effects of the TiO2 solubility in SnO2 on the local electronic structure of SnO<sub>2</sub>-TiO<sub>2</sub> nanocomposites / MOHAMED Ahmed Yousef<sup>1</sup>, LEE Minji<sup>1</sup>, KIM Dae Hyun<sup>2</sup>, PARK Tae Joo<sup>2,3</sup>, CHO Deok-Yong<sup>\*1</sup>** (<sup>1</sup>IPIT & Department of Physics, Chonbuk National University, Jeonju 54896, Korea, <sup>2</sup>Department of Advanced Materials Engineering, Hanyang University, Ansan 15588, Korea, <sup>3</sup>Department of Materials Science & Chemical Engineering, Hanyang University, Ansan 15588, Korea)

**C8.03\*** [9:24 - 9:36]

**Ultrafast dynamics of photo-excited surface carriers in the bulk-insulating topological insulator Bi<sub>1.5</sub>Sb<sub>0.5</sub>Te<sub>1.7</sub>Se<sub>1.3</sub> / CHOI Young Gwan<sup>1</sup>, ZHUNG Chan June<sup>1</sup>, PARK Sun-Hee<sup>1</sup>, PARK Joonbum<sup>2</sup>, KIM Jun Sung<sup>2,3</sup>, KIM Seongheun<sup>4</sup>, PARK Jaehun<sup>4</sup>, LEE J. S.<sup>\*1</sup>** (<sup>1</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology, <sup>2</sup>Department of Physics, Pohang University of Science and Technology, <sup>3</sup>Center for Artificial Low Dimensional Electronic Systems, Institute for Basic Science (IBS), <sup>4</sup>Pohang Accelerator Laboratory, Pohang Accelerator Laboratory)

**C8.04** [9:36 - 9:48]

**Controlling Molecular Kondo Resonances Studied using Scanning Tunneling Microscopy and Spectroscopy / CHANG MinHui<sup>1</sup>, CHANG YunHee<sup>2</sup>, KIM Na-Young<sup>2</sup>, KIM Howon<sup>1</sup>, KIM Yong-Hyun<sup>2</sup>, KAHNG Se-Jong<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Korea University, <sup>2</sup>Graduate School of Nanoscience and Technology, KAIST)

**C8.05\*** [9:48 - 10:00]

**Coupling between Charge, Lattice, Orbital, and Spin in a Charge Density Wave of 1T-TaS<sub>2</sub> / 이세호<sup>1</sup>, ZHANG Zhenyu<sup>2</sup>, 조준형<sup>\*1</sup>** (<sup>1</sup>한양대학교, 물리학과, <sup>2</sup>University of Science and Technology of China, ICQD)

**C8.06** [10:00 - 10:12]

**Atomic and Electronic Properties of the Nearly Commensurate Phase in 1T-TaS<sub>2</sub> / 박재환<sup>1</sup>, 조두희<sup>1</sup>, 엄한웅<sup>\*1</sup>** (<sup>1</sup>Center for Artificial Low Dimensional Electronic Systems, Institute for Basic Science (IBS))

**C8.07\*** [10:12 - 10:24]

**Hole doping, hybridization gap, and electronic correlation in graphene on a platinum substrate / HWANG Jinwoong<sup>1</sup>, HWANG Hwhiyeon<sup>1</sup>, KIM Min-Jeong<sup>1</sup>, RYU Hyejin<sup>2</sup>, LEE Ji-Eun<sup>1</sup>, QIN Zhou<sup>3</sup>, MO Sung-Kwan<sup>2</sup>, LEE Jaekwang<sup>1</sup>, LANZARA Alessandra<sup>4,5</sup>, HWANG Choongyu<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Pusan National University, <sup>2</sup>Advanced Light Source, Lawrence Berkeley National Laboratory, <sup>3</sup>Mechanical and Materials Engineering, University of Nebraska, <sup>4</sup>Material Sciences Division, Lawrence Berkeley National Laboratory, <sup>5</sup>Department of Physics, University of California Berkeley)

**C8.08\*** [10:24 - 10:36]

**알칼리금속 및 Cs화합물 첨가를 통한 플렉서블 은 나노와이어 투명전극용 보호막의 내구성 향상 연구 / 정용찬<sup>1</sup>, 민정호<sup>1</sup>, 김창수<sup>1</sup>** (<sup>1</sup>재료연구소, 표면기술연구본부)

**C8.09** [10:36 - 10:48]

**Polarization Dependent Reflectivity and Standing Wave Analysis of Resonant X-ray Scattering in Ultrathin La<sub>0.67</sub>Sr<sub>0.33</sub>MnO<sub>3</sub> Film / KIM M. K.<sup>1</sup>, CHOI Eui Young<sup>1</sup>, KIM Hyang Kyun<sup>2</sup>, KIM C.<sup>3,4</sup>, BAEK Seung Hyub<sup>5,6</sup>, KIM Shin Ik<sup>5,6</sup>, SONG Dongjoon<sup>7</sup>, PARK Seung Ryong<sup>8</sup>, JEON Hyeon Woo<sup>1</sup>, KIM Younghak<sup>9</sup>, KIM Jae-Young<sup>9,10</sup>, SEO Ji Won<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Yonsei University, <sup>2</sup>College of Engineering, Hongik University, <sup>3</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>4</sup>Department of Physics and Astronomy, Seoul National University, <sup>5</sup>Center for Electronic Materials, Korea Institute of Science and Technology, <sup>6</sup>Department of Nanomaterials Science and Technology, Korea University of Science and Technology, <sup>7</sup>Superconducting electronics group, National Institute of Advanced Industrial Science and Technology, <sup>8</sup>Department of Physics, Incheon National University, <sup>9</sup>Pohang Accelerator Laboratory, Pohang University of Science and Technology, <sup>10</sup>Department of Physics, Pohang University of Science and Technology)

**[C9-co] Focus: Strongly correlated electron system: quantum material property in 4d/5d transition-metal oxides I**

2017. 10. 26 Thursday 9:00 – 10:36

Room : 203

좌장 : 한 명 준 한국과학기술원

Chair : HAN Myung Joon (KAIST)

**C9.01** [9:00 - 9:24]

**Topological hall effect in ultra-thin SrRuO<sub>3</sub> film. / KIM Bongju<sup>1,2</sup>, SON Byungmin<sup>1,2</sup>, NOH Tae Won<sup>1,2</sup>, KIM Changyoung<sup>\*1,2</sup>** (<sup>1</sup>서울대학교, 물리학과, <sup>2</sup>Center for Correlated Electron systems, Institute for Basic Science,)

**C9.02** [9:24 - 10:00]

**Octahedral rotation in layered 4d and 5d transition metal oxides / 김충현<sup>\*1,2</sup>** (<sup>1</sup>기초과학연구원, 강상관계물질연구단, <sup>2</sup>서울대학교, 물리천문학부)

C9.03 [10:00 - 10:36]

**Spin supercurrent in  $\text{Sr}_2\text{RuO}_4$  superconductor** / 정석범<sup>1,2</sup>, 이기훈<sup>1</sup>, KIM Se Kwon<sup>3</sup>, TSEKOVNYAK Yaroslav<sup>3</sup> (<sup>1</sup>서울대학교, 물리천문학부, <sup>2</sup>서울시립대학교, 물리학과, <sup>3</sup>Department of Physics and Astronomy, UCLA)

**[C10-op] Optical Science and technology**

2017. 10. 26 Thursday 09:00 - 10:36

Room : 204

좌장 : 문 한 섭 부산대

Chair : MOON Han Seb (Pusan National University)

C10.01 [09:00 - 09:24]

**Non-thermalized many-body quantum state of cold atoms in optical lattice** / CHOI Jae-yoon<sup>\*1</sup> (<sup>1</sup>Department of Physics, KAIST)

C10.02\* [09:24 - 09:36]

**액정구조의 동역학적, 기하학적 위상변화 연구** / 최민호<sup>1</sup>, 최재우<sup>\*1</sup> (<sup>1</sup>경희대학교, 정보디스플레이학과)

C10.03 [09:36 - 09:48]

**2색 편광형광상관분광법을 이용한 (TTAGGG)4 DNA 시퀀스의 확산운동 분석** / 김현기<sup>1</sup>, 이재란<sup>1</sup>, 김석원<sup>1</sup> (<sup>1</sup>울산대학교, 물리학과)

C10.04 [09:48 - 10:00]

**동축 컬러 분석 기반 포도당 검출 시스템 연구 Investigation on glucose detection based on co-axial colorimetric method** / 황주일<sup>1</sup>, 유광욱<sup>1</sup>, 박시진<sup>2</sup>, 이동윤<sup>2</sup>, 한영근<sup>\*1</sup> (<sup>1</sup>한양대학교, 물리학과, <sup>2</sup>한양대학교, 생명공학과)

C10.05\* [10:00 - 10:12]

**해양수심 측정 LiDAR의 성능 평가 연구 Study of performance evaluation for bathymetric LiDAR** / 이상철<sup>1</sup>, 이학철<sup>1</sup>, 위광재<sup>2</sup>, 김현숙<sup>2</sup>, 김재완<sup>3</sup>, 김재순<sup>\*1</sup> (<sup>1</sup>명지대학교, 물리학과, <sup>2</sup>지오스토리, 기술연구소, <sup>3</sup>한국표준과학연구원, 기반표준본부 길이센터)

C10.06\* [10:12 - 10:24]

**다중-분할 쌍원추 거울을 이용한 선형빔 형성. The formation of line beam with a multi-segmented biconical mirror.** / YANG Sunseok<sup>1</sup>, KWON Ohhyung<sup>1</sup>, LEE Jungjoo<sup>2</sup>, BAEK Seung-kuk<sup>3</sup>, CHOI Wonsik<sup>4</sup>, KIM Jaisoon<sup>\*1</sup> (<sup>1</sup>Department of Physics, Myongji University, <sup>2</sup>Management Support, Co.LIVS MED, <sup>3</sup>Anam Hospital Medical Center, Korea University, <sup>4</sup>Department of Physics, Korea University)

C10.07\* [10:24 - 10:36]

**A direct holographic method exploiting speckle-correlation scattering matrix** / LEE KyeoReh<sup>1</sup>, PARK YongKeun<sup>\*1</sup> (<sup>1</sup>Department of Physics, KAIST)

**[C11-pl] Focus: Symposium for the basic fusion research & development program III**

2017. 10. 26 Thursday 09:00 - 10:20

Room : 205

좌장 : 노 승 정 단국대학교

Chair : NOH Seung Jeong (Dankook University)

C11.01 [9:00 - 9:30]

**플라즈마 대면 소재의 초고온 물성 연구** / 이근우<sup>\*1,2</sup>, 이윤희<sup>1,2</sup>, 유창환<sup>3</sup>, 김일환<sup>4</sup>, 박은수<sup>4</sup>, 이병찬<sup>3</sup> (<sup>1</sup>한국표준과학연구원, <sup>2</sup>과학기술연합대학원대학교, 나노계측학과, <sup>3</sup>경희대학교, 기계공학과, <sup>4</sup>서울대학교, 재료공학과)

C11.02 [9:30 - 10:00]

**Research on improving techniques of inducing, collecting and utilizing scattered photons for the KSTAR Thomson scattering system** / GHIM Young-chul<sup>\*1</sup>, CHO Kyuman<sup>2</sup>, KIM Keon-hee<sup>1</sup>, PARK Kyeo-reh<sup>1</sup>, KWAK Sehyun<sup>1</sup>, OH Tae-suk<sup>1</sup>, LEE Jong-ha<sup>3</sup> (<sup>1</sup>Department of Nuclear & Quantum Engineering, Korea Advanced Institute of Science and Technology, <sup>2</sup>Department of Physics, Sogang University, <sup>3</sup>National Fusion Research Institute, National Fusion Research Institute)

C11.03 [10:00 - 10:20]

**핵융합로용 저장사화 철강소재 개발** / 이창훈<sup>1</sup>, 설우경<sup>1</sup>, 박준영<sup>1</sup>, 문준오<sup>1</sup>, 이태호<sup>1</sup>, 강남현<sup>2</sup>, 김형찬<sup>3</sup> (<sup>1</sup>재료연구소, 철강재료연구실, <sup>2</sup>부산대학교, 재료공학부, <sup>3</sup>국가핵융합연구소, DEMO기술연구부)

**[C12-ap] Surface, interface and thin films**

2017. 10. 26 Thursday 09:00 - 10:24

Room : 206

좌장 : 조 상 완 연세대

Chair : CHO Sang Wan (Yonsei University)

C12.01\* [9:00 - 9:12]

**Formation of unit-cell step terrace structures and their electrical characteristics of (001) oriented Nb:SrTiO3** / YOON Woo Young<sup>1</sup>, JIN Hye-Jin<sup>1</sup>, JO William<sup>\*1</sup> (<sup>1</sup>Department of Physics, Ewha Womans University)

C12.02 [9:12 - 9:24]

**Nanopatterning on rocking substrates by ion-beam sputtering** / JO Sujin<sup>1</sup>, KIM Jae-Sung<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sook-Myung Women's University)

C12.03\* [9:24 - 9:36]

**MeV electron beam stimulated welding of silver nanowire networks encapsulated with graphene for flexible and transparent electrodes** / 이수진<sup>1,2</sup>, 박진성<sup>1</sup>, 이선숙<sup>2</sup>, 송우석<sup>2</sup>, 이영범<sup>2</sup>,

한진규<sup>2</sup>, 임이랑<sup>2</sup> (<sup>1</sup>한양대학교, 신소재공학과, <sup>2</sup>한국화학연구원, 박막재료연구센터)

C12.04\* [9:36 - 9:48]

**Optical and electrical properties of amorphous Zn-Sn-O transparent conducting films** / OH Seol Hee<sup>1</sup>, DINIA Aziz<sup>2</sup>, SLAOUI Abdelilah<sup>3</sup>, FERBLANTIER Gerald<sup>2</sup>, FIX Thomas<sup>2</sup>, JO William<sup>\*1</sup> (<sup>1</sup>Department of Physics and New and Renewable Energy Research Center (NREC), Ewha Womans University, <sup>2</sup>IPCMS, CNRS-Universite de Strasbourg, <sup>3</sup>ICube, CNRS-Universite de Strasbourg)

C12.05\* [9:48 - 10:00]

**Phase distribution of Sn-S polytypes in tin monosulfide (SnS) thin films and their electrical impacts on the thin films by local characterization** / KIM Juran<sup>1</sup>, KIM Jayeong<sup>1</sup>, YOON Seokhyun<sup>1</sup>, KANG Jeong-yoon<sup>2</sup>, JEON Chan-Wook<sup>2</sup>, JO William<sup>\*1</sup> (<sup>1</sup>Department of Physics and New & Renewable Energy Research Center (NREC), Ewha Womans University, <sup>2</sup>School of Chemical Engineering, Yeungnam University)

C12.06\* [10:00 - 10:12]

**Control of conducting states of MoS2 layers on ferroelectric polarizations** / JIN Hye-Jin<sup>1</sup>, YOON Woo Young<sup>1</sup>, JO William<sup>\*1</sup> (<sup>1</sup>Department of Physics, Ewha Womans University)

C12.07 [10:12 - 10:24]

**1/f noise study in MoTe2 FET for understanding of carrier fluctuation** / JI Hyunjin<sup>\*1</sup>, JOO Min-Kyu<sup>2</sup>, LIM Seong Chu<sup>1,2</sup>, LEE Gwanmu<sup>1,2</sup>, SUH Dongseok<sup>1,2</sup> (<sup>1</sup>Department of Energy Science, Sungkyunkwan University, <sup>2</sup>Center for Integrated Nanostructure Physics, Institute for Basic Science (IBS))

**E [C13-co] Pioneer: High pressure physics and superconductivity I**

2017. 10. 26 Thursday 9:00 - 10:48

Room : 300A

좌장 : 김 기 훈 서울대

Chair : KIM Kee Hoon (Seoul National University)

C13.01 [9:00 - 9:12]

**Pressure dependent transport properties of TiZrNi quasicrystals** / KIM Jaeyong <sup>\*1</sup> (<sup>1</sup>Hanyang University, Department of Physics, and HYU-HPSTAR-CIS High Pressure Research Center)

C13.02 [9:12 - 9:36]

**Ultra-small angle neutron scattering (KIST-USANS) techniques and its applications** / KIM Man-Ho<sup>\*1</sup> (<sup>1</sup>Advanced Analysis Center, Korea Institute of Science and Technology, Advanced Research Center)

C13.03 [9:36 - 10:12]

**Computational prediction of novel materials under pressure and experimental synthesis** / KIM Duckyoung<sup>\*1</sup> (<sup>1</sup>Center for High Pressure Science & Technology Advanced Research, Computational Theory Group)

C13.04 [10:12 - 10:48]

**Hydrogen in Compressed Metals: Synthesis of Superhydrides** / STRUZHKIN Viktor<sup>\*1</sup> (<sup>1</sup>Carnegie Institution for Science, Geophysical Laboratory)

**[C14-bp] Biological physics I**

2017. 10. 26 Thursday 09:00 - 10:48

Room : 300B

좌장 : 김 채 운 울산과학기술원

Chair : KIM Chae Un (UNIST)

C14.01 [09:00 - 09:24]

**RNA Stem Structure Governs Coupling of Dicing and Gene Silencing in RNA interference** / KOH Hye Ran<sup>1,2</sup>, GHANBARINIAKI Amirhossein<sup>2</sup>, MYONG Sua<sup>\*2</sup> (<sup>1</sup>Department of Chemistry, Chung-Ang University, <sup>2</sup>Department of Biophysics, Johns Hopkins University)

C14.02 [09:24 - 09:36]

**에너지 요구와 정보의 필요에 의해 조절되는 예쁜꼬마선충의 먹이섭취 동역학** / 이경석<sup>\*1</sup> (<sup>1</sup>공주대학교, 물리교육과)

C14.03 [09:36 - 09:48]

**당뇨병 초기 진단을 위한 기계학습의 프로토타입 모델** / 송태근<sup>\*1</sup>, 조정호<sup>1</sup> (<sup>1</sup>Asia Pacific Center for Theoretical Physics, JRG)

C14.04 [09:48 - 10:00]

**Interferometric scattering (iSCAT) microscopy for label-free and live cell imaging** / PARK Jin-Sung<sup>1</sup>, LEE Il-Beum<sup>1,2</sup>, MOON Hyeon-Min<sup>1,2</sup>, JOO Jong-Hyeon<sup>1,3</sup>, HONG Seok-Cheol<sup>1,2</sup>, CHO Minhaeng<sup>1,3</sup> (<sup>1</sup>Center for Molecular Spectroscopy and Dynamics, Institute for Basic Science, <sup>2</sup>Department of Physics, Korea University, <sup>3</sup>Department of Chemistry, Korea University)

C14.05 [10:00 - 10:12]

**Exonuclease processivity is controlled by dynamic coordination of two metal ions** / HWANG Wonseok<sup>1</sup>, YOO Jungmin<sup>2</sup>, PARK Suyeon<sup>2</sup>, JHO Hyeok Jin<sup>2</sup>, YU Jeongmin<sup>2</sup>, SHIN Minsang<sup>2</sup>, JIN Mi Sun<sup>2</sup>, PARK Daeho<sup>2</sup>, HYEON Changbong<sup>1</sup>, LEE Gwangrog<sup>\*1</sup> (<sup>1</sup>Computational Sciences, KIAS, <sup>2</sup>School of life Sciences, GIST)

C14.06 [10:12 - 10:24]

**Real-time observation of ATP-independent single-strand DNA binding protein (SSB) displacement by RecO in Deinococcus**

**radiodurans** / 황지희<sup>1</sup>, 김성근<sup>1</sup>, 이남기<sup>1\*</sup> (<sup>1</sup>서울대학교, 화학부)

**C14.07\*** [10:24 - 10:36]

**Origin of the FRET efficiency distribution in single-molecule measurement** / LEE Jaemin<sup>1</sup>, KIM Sung Hyun<sup>1,2</sup>, SE Tola<sup>1</sup>, KIM Doseok<sup>1\*</sup> (<sup>1</sup>Department of Physics, Sogang University, <sup>2</sup>School of Biological Science, Seoul National University)

**C14.08** [10:36 - 10:48]

**Temporal separation of transcription termination and polymerase recycling** / KANG Wooyoung<sup>1,2,3</sup>, HA Kooksun<sup>4</sup>, UHM Heesoo<sup>1,2,3</sup>, HOHNG Sungchul<sup>1,2,3</sup>, KANG Changwon<sup>5</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Institute of Applied Physics, Seoul National University, <sup>3</sup>National Center of Creative Research Initiatives, Seoul National University, <sup>4</sup>Department of Life Science, The University of Suwon, <sup>5</sup>Department of Biological Sciences, Korea Advanced Institute of Science and Technology)

**[C15-nu] Nuclear reaction**

2017. 10. 26 Thursday 9:00 - 10:24

Room : 300C

좌장 : 남 승 일 부경대

Chair : NAM Seung-il (Pukyong National University)

**C15.01** [9:00 - 9:12]

**적분 실험값을 이용한 중성자 입사 핵반응 단면적 평가** / 김형일<sup>1</sup>, 이영욱<sup>1</sup> (<sup>1</sup>한국원자력연구원, 원자력데이터센터)

**C15.02\*** [9:12 - 9:24]

**Status of  $\pi$ RIT experiment at RIBF for nuclear symmetry energy** / LEE Jung Woo<sup>1</sup>, HONG Byungsik<sup>1\*</sup>, JHANG Genie<sup>1</sup> (<sup>1</sup>Department of Physics, Korea University)

**C15.03** [9:24 - 9:36]

**Analysis of  $^{11}\text{Li} + ^{208}\text{Pb}$  fusion reaction using 3-channel coupled method approach** / CHOI Ki-Seok<sup>1\*</sup>, CHEOUN Myung-Ki<sup>1</sup>, SO W. Y.<sup>2</sup>, HAGINO K.<sup>3</sup>, KIM K. S.<sup>4</sup> (<sup>1</sup>Department of Physics, Soongsil University, <sup>2</sup>Department of Radiological Science, Kangwon National University at Dogye, <sup>3</sup>Department of Physics, Tohoku University, <sup>4</sup>School of Liberal Arts and Science, Korea Aerospace University)

**C15.04** [9:36 - 9:48]

**Excitation functions of  $\text{natPd}(p,x)$   $^{102}\text{m,g};^{101}\text{m,g};^{99}\text{m,gRh}$  reactions and the isomer ratios of  $^{102}\text{m,g};^{101}\text{m,g};^{99}\text{m,gRh}$  pairs** / NGUYEN Thi Hien<sup>1</sup>, KIM Guinyun<sup>1\*</sup>, KIM Kwangsoo<sup>1</sup>, NGUYEN Van Do<sup>2</sup> (<sup>1</sup>Department of Physics, Kyungpook National University, <sup>2</sup>Institute of Physics, Vietnam Academy of Science and Technology)

**C15.05** [9:48 - 10:00]

**Fission yields in the 2.5 GeV bremsstrahlung-induced fission of  $^{232}\text{Th}$**  / NAIK Haladhara<sup>1</sup>, KIM Guinyun<sup>2\*</sup>, KIM Kwangsoo<sup>2</sup>, CHO Moo-Hyun<sup>3</sup> (<sup>1</sup>Radiochemistry Division, Bhabha Atomic Research Centre, Mumbai 400085, India, <sup>2</sup>Department of Physics, Kyungpook National University, <sup>3</sup>Division of Advanced Nuclear Engineering, Pohang University of Science and Technology)

**C15.06\*** [10:00 - 10:12]

**Study of  $N^*$  resonances in eta photoproduction** / SUH JungMin<sup>1</sup>, KIM Sang-Ho<sup>2</sup>, KIM Hyun-Chul<sup>1\*</sup> (<sup>1</sup>Department of Physics, Inha University, <sup>2</sup>Department of Physics, APCTP)

**C15.07** [10:12 - 10:24]

**Elastic alpha-carbon-12 scattering at low energies with the bound states of oxygen-16 in effective field theory** / ANDO Shung-Ichi<sup>1\*</sup> (<sup>1</sup>School of Mechanical and ICT Convergence Engineering, Sunmoon University)

## SESSION D

2017 October 26(Thu) 11:00–12:48

### **[D1-pa] Pioneer: Dark matter and a new physics II**

2017. 10. 26 Thursday 11:00 – 12:48

Room : 101

좌장 : 장 상 현 IBS-CTPU

Chair : CHANG Sanghyeon (IBS-CTPU)

**D1.01** [11:00 - 11:36]

**Searching for Axionic Blue Isocurvature Perturbations / CHUNG Daniel<sup>\*1</sup>** (<sup>1</sup>Department of Physics, USA, University of Wisconsin–Madison)

**D1.02** [11:36 - 12:00]

**COSINE dark matter search experiment / LEE Hyun Su<sup>\*1</sup>** (<sup>1</sup>Center for Underground Physics, Institute for Basic Science)

**D1.03** [12:00 - 12:24]

**Higgs Precision - Formalism and Prospects / JUNG Sunghoon<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Seoul National University)

**D1.04** [12:24 - 12:48]

**Dark matter in Cosmology / 최기영<sup>\*1</sup>** (<sup>1</sup>성균관대학교, 물리학과)

### **[D2-st] Chaos/Nonequilibrium systems**

2017. 10. 26 Thursday 11:00 – 12:48

Room : 102

좌장 : 안 강 현 충남대학교

Chair : AHN Kang Hun (Chungnam National University)

**D2.01** [11:00 - 11:24]

**Intermittent many-body dynamics at equilibrium / FLACH Sergej<sup>\*1</sup>** (<sup>1</sup>Center for Theoretical Physics of Complex Systems, Institute for Basic Science)

**D2.02** [11:24 - 11:36]

**Amplitude death in a ring of inhomogeneous nonlinear oscillators with unidirectional coupling / RYU Jung-Wan<sup>\*1</sup>, KIM Jong-Ho<sup>2</sup>, SON Woo-Sik<sup>2,3</sup>, HWANG Dong-Uk<sup>2</sup>** (<sup>1</sup>Center for Theoretical Physics of Complex Systems, Institute for Basic Science, <sup>2</sup>Industrial Mathematics, National Institute for Mathematical Sciences, <sup>3</sup>Center for Convergent Research of Emerging Virus Infection, Korea Research Institute of Chemical Technology)

**D2.03** [11:36 - 11:48]

**Stable Chimeras and Independently Synchronizable Clusters / CHO Young Sul<sup>\*1</sup>, NISHIKAWA Takashi<sup>2</sup>, MOTTER Adilson E.<sup>2</sup>** (<sup>1</sup>Department of

Physics, Chonbuk National University, <sup>2</sup>Department of Physics and Astronomy, Northwestern University)

**D2.04** [11:48 - 12:00]

**Additivity of multiple heat reservoirs in Langevin equation / 이재성<sup>\*1</sup>, 박형규<sup>1</sup>** (<sup>1</sup>고등과학원, QUC and School of Physics)

**D2.05** [12:00 - 12:12]

**Small mass limit of a Brownian motion under the Lorentz force / CHUN Hyun-myung<sup>1</sup>, NOH Jae dong<sup>\*1,2</sup>** (<sup>1</sup>Department of Physics, University of Seoul, <sup>2</sup>School of Physics, Korea Institute for Advanced Study)

**D2.06** [12:12 - 12:24]

**Nonuniversality of heat engine efficiency at maximum power / LEE Sang Hoon<sup>\*1</sup>, UM Jaegon<sup>2</sup>, PARK Hyunggyu<sup>1,3</sup>** (<sup>1</sup>School of Physics, Korea Institute for Advanced Study, <sup>2</sup>CCSS, CTP and Department of Physics and Astronomy, Seoul National University, <sup>3</sup>Quantum Universe Center, Korea Institute for Advanced Study)

**D2.07** [12:24 - 12:36]

**Derivation of Markov processes without detailed balance / 이주련<sup>\*1</sup>** (<sup>1</sup>송실대학교, 생명정보학과)

**D2.08\*** [12:36 - 12:48]

**Role of work in matter exchange between finite quantum systems / JEON Euijin<sup>1</sup>, TALKNER Peter<sup>2</sup>, YI Juyeon<sup>3</sup>, KIM Yong Woon<sup>\*1</sup>** (<sup>1</sup>Graduate School of Nanoscience and Technology, Korea Advanced Institute of Science and Technology, <sup>2</sup>Department of Physics, University of Augsburg, <sup>3</sup>Department of Physics, Pusan National University)

### **[D3-as] Focus: Gravitational wave astronomy II**

2017. 10. 26 Thursday 11:00 – 12:48

Room : 103

좌장 : 이 형 원 인제대

Chair : LEE Hyung Won (Inje University)

**D3.01** [11:00 - 11:36]

**Superconducting Low-frequency Gravitational-wave Telescope (SLGT): Technical Challenge and Feasibility / LEE Yong-Ho<sup>\*1</sup>, AHN Sang-Hyeon<sup>2</sup>, BAE Yeong-Bok<sup>2</sup>, KANG Gungwon<sup>3</sup>, KIM Chunglee<sup>2</sup>, KIM Whansun<sup>4</sup>, OH John J.<sup>4</sup>, OH Sang Hoon<sup>4</sup>, PARK Chan<sup>3</sup>, SON Edwin J.<sup>4</sup>, PAK Hoo Jung<sup>5</sup>** (<sup>1</sup>Korea Research Institute of Standards and Science, <sup>2</sup>Korea Astronomy & Space Science Institute, <sup>3</sup>Korea Institute of Science and Technology Information, <sup>4</sup>National Institute for Mathematical Sciences, <sup>5</sup>U. of Maryland (USA), .)

**D3.02** [11:36 - 12:00]

**Superconducting Low-frequency Gravitational-wave Telescope**

**(SLGT): pilot study status report /** KIM Chunglee Kim<sup>\*1</sup>, AHN Sang-Hyeon<sup>1</sup>, BAE Yeong-Bok<sup>1</sup>, KANG Gungwon<sup>2</sup>, KIM Whansun<sup>3</sup>, OH John J.<sup>3</sup>, OH Sang Hoon<sup>3</sup>, PARK Chan<sup>2</sup>, SON Edwin J.<sup>3</sup>, LEE Yong Ho<sup>4</sup>, PAIK Ho Jung<sup>5</sup>  
<sup>(1</sup>Center for Theoretical Astronomy, Korea Astronomy and Space Science Institute, <sup>2</sup>Division of Supercomputing, Korea Institute of Science and Technology, <sup>3</sup>Division of Industrial Mathematics, National Institute for Mathematical Sciences, <sup>4</sup>Center for Biosignals, Korea Research Institute of Standards and Science, <sup>5</sup>Dept. of Physics, U. of Maryland, USA)

**D3.03** [12:00 - 12:24]

**Binary Black Hole Inspirals and Gravitational Wave detection in 0.1-10 Hz /** BAE Yeong-Bok<sup>\*1</sup>, AHN Sang-Hyeon<sup>1</sup>, KANG Gungwon<sup>2</sup>, KIM Chunglee<sup>1</sup>, KIM Whansun<sup>3</sup>, OH John J.<sup>3</sup>, OH Sang Hoon<sup>3</sup>, PARK Chan<sup>2</sup>, SON Edwin J.<sup>3</sup>, LEE Yong Ho<sup>4</sup> (<sup>1</sup>Center for Theoretical Astronomy, Korea Astronomy and Space Science Institute, <sup>2</sup>Division of Supercomputing, Korea Institute of Science and Technology Information, <sup>3</sup>Division of Industrial Mathematics, National Institute for Mathematical Sciences, <sup>4</sup>Center for Biosignals, Korea Research Institute of Standards and Science)

**D3.04** [12:24 - 12:48]

**Stochastic Gravitational Wave Background in 0.1-10 Hz /** PARK Chan<sup>\*1</sup>, AHN Sang-Hyeon<sup>2</sup>, BAE Yeong-Bok<sup>2</sup>, KANG Gungwon<sup>1</sup>, KIM Chunglee<sup>2,3</sup>, KIM Whansun<sup>3</sup>, OH John J.<sup>3</sup>, OH Sang Hoon<sup>3</sup>, SON Edwin J.<sup>3</sup>, LEE Yong Ho<sup>4</sup> (<sup>1</sup>Division of Supercomputing, Korea Institute of Science and Technology, <sup>2</sup>Center for Theoretical Astronomy, Korea Astronomy and Space Science Institute, <sup>3</sup>Division of Industrial Mathematics, National Institute for Mathematical Sciences, <sup>4</sup>Center for Biosignals, Korea Research Institute of Standards and Science)

**[D4-nu] Nuclear Exp. Method etc. II**

2017. 10. 26 Thursday 11:00 - 12:36

Room : 104

좌장 : 채 경 욱 성균관대

Chair: CHEA Kyung Yuk (Sungkyunkwan University)

**D4.01\*** [11:00 - 11:12]

**Luminescence and scintillation properties of disodium dimolybdate (Na<sub>2</sub>Mo<sub>2</sub>O<sub>7</sub>) crystals /** PANDEY Indra Raj<sup>1</sup>, LEE M. H.<sup>3</sup>, KIM H. J.<sup>2</sup> (<sup>1</sup>Physics, Kyungpook National University, <sup>2</sup>Physics, Kyungpook National University, <sup>3</sup>Center for Underground Physics, Institute for Basic Science)

**D4.02** [11:12 - 11:24]

**Status report for Csl detector performance test with radioisotopes /** LEE Hanseul<sup>1</sup>, MOON Dongho<sup>\*1</sup>, BAK Gyeonghwan<sup>1</sup>, LEE Kyongsei<sup>2</sup>, AHN Jungkeun<sup>2</sup>, HONG Byungsik<sup>2</sup>, PARK Jaebeom<sup>2</sup>, YI Jungyu<sup>3</sup>, KIM Eunjo<sup>4</sup>, KIM Yongjin<sup>5</sup> (<sup>1</sup>Department of Physics, Chonnam National University, <sup>2</sup>Department of Physics, Korea University, <sup>3</sup>Radiation Medical Physics Research Team, DIRAMS, <sup>4</sup>Department of Science Education, Chonbuk National University, <sup>5</sup>RISP, Institute

for Basic Science)

**D4.03\*** [11:24 - 11:36]

**Status report for Si-Csl detector simulation study with IQMD simulated data at Low-LAMPS (Large Acceptance Multi-Purpose Spectrometer) /** BAK Gyeonghwan<sup>1</sup>, MOON Dongho<sup>\*1</sup>, LEE Hanseul<sup>1</sup>, LEE Kyongsei<sup>2</sup>, AHN Jungkeun<sup>2</sup>, HONG Byungsik<sup>2</sup>, PARK Jaebeom<sup>2</sup>, KIM Yongjin<sup>3</sup>, KIM Eunjo<sup>4</sup> (<sup>1</sup>Department of Physics, Chonnam National University, <sup>2</sup>Department of Physics, Korea University, <sup>3</sup>Rare Isotope Science Project, Institute for Basic Science, <sup>4</sup>Division of Science Education, Chonbuk National University)

**D4.04** [11:36 - 11:48]

**Development of LAMPS Time Projection Chamber /** 이호상<sup>\*1</sup>, 김영진<sup>1</sup>, 류민상<sup>1</sup>, 이광복<sup>1</sup>, 김은희<sup>1</sup>, Charles Anthony Akers<sup>1</sup>, 박진형<sup>1</sup> (<sup>1</sup>기초과학연구원, 중이온가속기건설추진사업단)

**D4.05** [11:48 - 12:00]

**Gamma-ray tracking system in KRISS(2) /** 한주봉<sup>2</sup>, 이경범<sup>1</sup>, 이종만<sup>1</sup>, 박태순<sup>1</sup>, 이상한<sup>1</sup>, 오정석<sup>1</sup> (<sup>1</sup>한국표준과학연구원, 방사선표준, <sup>2</sup>과학기술연합대학교, 측정과학)

**D4.06\*** [12:00 - 12:12]

**차세대 실리콘 센서 개발을 위한 인베스티게이터 칩의 특성연구 /** 오근수<sup>1</sup>, 유인권<sup>1</sup>, 윤은규<sup>1</sup>, 이상현<sup>1</sup>, 임봉휘<sup>1</sup> (<sup>1</sup>부산대학교, 물리학과)

**D4.07** [12:12 - 12:24]

**High-resolution magnetic spectrometer in the R3B setup /** KIM Sunji<sup>\*1</sup> (<sup>1</sup>Physics Department, Technische Universität Darmstadt)

**D4.08** [12:24 - 12:36]

**Measurement of prompt gammas for particle therapy /** LEE Kyong Sei<sup>\*1</sup>, JO Youngmin<sup>1</sup>, KANG Minho<sup>1</sup>, PARK Sung Keun<sup>1</sup> (<sup>1</sup>Physics, Korea University)

**[D5-at] Quantum Information**

2017. 10. 26 Thursday 11:00 - 12:44

Room : 105

좌장 : 이재 훈 한국표준과학연구원

Chair : LEE Jae Hoon (KRISS)

**D5.01** [11:00 - 11:26]

**Quantum Interference Using Single-Photon Sources from Doppler-Broadened Atomic Ensemble /** JEONG T.<sup>1</sup>, LEE Y.-S.<sup>1</sup>, PARK J.<sup>1</sup>, KIM H.<sup>1</sup>, MOON H. S.<sup>\*1</sup> (<sup>1</sup>Department of Physics, Pusan National University)



D5.02 [11:26 - 11:52]

**Quantum Key Distribution by Optimal Sequential State Discrimination** / NAM Kungmin<sup>1</sup>, KWON Younghun<sup>\*1</sup> (<sup>1</sup>한양대학교, 응용물리학과)

D5.03 [11:52 - 12:05]

**Joint spectral intensity of pair photons generated by spontaneous four wave mixing in a dispersion shifted fiber** / PARK Kyungdeuk<sup>1</sup>, LEE Dongjin<sup>1</sup>, SHIN Heedeuk<sup>\*1</sup> (<sup>1</sup>Department of Physics, Pohang University of science and technology)

D5.04 [12:05 - 12:18]

**Maximal trace distance between isoenergetic bosonic Gaussian states** / VOLKOFF Tyler<sup>\*1</sup> (<sup>1</sup>건국대학교, 물리학과)

D5.05\* [12:18 - 12:31]

**Thermalization dynamics of an Ising quantum magnet** / KIM Hyosub<sup>1</sup>, AHN Jaewook<sup>\*1</sup>, PARK Yeje<sup>1</sup>, SIM Heungsun<sup>1</sup>, LEE Woojun<sup>1</sup>, KIM Kyungtae<sup>1</sup>, SONG Yunheung<sup>1</sup> (<sup>1</sup>Physics, KAIST)

D5.06\* [12:31 - 12:44]

**Ultrafast coherent control scheme to make leakage-suppressed qubit-subspace in a three-level quantum system** / JO Hanlae<sup>1</sup>, AHN Jaewook<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology)

**[E [D6-se] Pioneer: Energy harvesting technologies II**

2017. 10. 26 Thursday 11:00 – 13:00

Room : 106

좌장 : 김 용 민 단국대학교

Chair : KIM Yongmin (Dankook University)

D6.01 [11:00 - 11:24]

**Development of Printing Thermoelectric Module and Quest of New Thermoelectric Materials for Energy and Environmental** / KOYANO Mikio<sup>\*1</sup> (<sup>1</sup>School of Materials Science, Japan Advanced Institute of Science and Technology)

D6.02 [11:24 - 11:48]

**Nanostructured Silicon Thermoelectric Devices** / JANG Moongyu<sup>\*1</sup> (<sup>1</sup>Department of Materials Science and Engineering, Hallym University)

D6.03 [11:48 - 12:12]

**Crystallization of organolead halide perovskite: vacuum deposition and real-time analysis** / MIYADERA Tetsuhiko<sup>\*1</sup> (<sup>1</sup>Research

Center for photovoltaics, National Institute of Advanced Industrial Science and Technology (AIST))

D6.04 [12:12 - 12:36]

**Performance Stretchable Triboelectric Nanogenerators with a dielectric interlayer** / 정운룡<sup>1</sup>, 김동욱<sup>1</sup>, 이주현<sup>1</sup>, 최우성<sup>1</sup> (<sup>1</sup>포항공과대학교, 신소재공학과)

D6.05 [12:36 - 13:00]

**Interface Optoelectronics for Tandem Solar Cells by Perovskite and Silicon** / ITO Seigo<sup>\*1</sup>, KANDA Hiroyuki<sup>1</sup> (<sup>1</sup>University of Hyogo)

**[E [D7-co] Pioneer: Non-equilibrium first-principles calculations for energy applications II**

2017. 10. 26 Thursday 11:00 – 12:36

Room : 201

좌장 : 방 준 혁 한국기초과학지원연구원

Chair : BANG Junhyeok (KBSI)

D7.01 [11:00 - 11:36]

**Nonequilibrium Quantum Transport and Optical Processes in Controlled Quantum Nanostructures from First Principles** / PAWEŁ Hawrylak<sup>\*1</sup> (<sup>1</sup>Department of Physics, University of Ottawa)

D7.02 [11:36 - 12:12]

**Moving atoms and spins: non-equilibrium theory for current-driven phenomena** / SANVITO Stefano <sup>\*1</sup> (<sup>1</sup>School of Physics, Trinity College)

D7.03 [12:12 - 12:36]

**Petahertz frequency control of spins** / 김영재<sup>1</sup>, 이재동<sup>\*1</sup> (<sup>1</sup>대구경북과학기술원, 신물질과학전공)

**[D8-co] Focus: Quantum coherence in condensed matter**

2017. 10. 26 Thursday 11:00 – 12:48

Room : 202

좌장 : 심 흥 선 한국과학기술원

Chair : SIM Heung Sun (KAIST)

D8.01 [11:00 - 11:36]

**Direct Measurement of the energy gaps in graphene on hexagonal boron nitride** / JUNG Suyong<sup>\*1</sup> (<sup>1</sup>Center for Quantum Measurement Science, Korea Research Institute of Standards and Science)

D8.02 [11:36 - 12:12]

**Quantum decoherence dynamics of defect spins in semiconductors**

/ 서호성<sup>1,2</sup> (<sup>1</sup>아주대학교, 물리학과, <sup>2</sup>The University of Chicago, Institute for Molecular Engineering)

D8.03 [12:12 - 12:24]

**Scattering model for Hanbury-Brown Twiss effects of two interacting electrons** / 류성근<sup>1</sup>, 심흥선<sup>1</sup> (<sup>1</sup>한국과학기술원, 물리학과)

D8.04 [12:24 - 12:36]

**Intrinsic Aharonov-Bohm Interferometry at a single p-n junction in quantum Hall graphene** / MYOUNG Nojoon<sup>1,2</sup>, PARK Hee Chul<sup>1,2</sup> (<sup>1</sup>Department of Physics Education, Chosun University, <sup>2</sup>Center for Theoretical Physics of Complex Systems, Institute for Basic Science)

D8.05 [12:36 - 12:48]

**GHz nanomechanical resonators in ballistic suspended graphene pn junctions** / JUNG Minkyung<sup>1</sup> (<sup>1</sup>DGIST Research Institute)

**[D9-co] Focus: Strongly correlated electron system: quantum material property in 4d/5d transition-metal oxides II**

2017. 10. 26 Thursday 11:00 – 12:36

Room : 203

좌장 : 김 창 영 서울대-IBS

Chair : KIM Changyoung (Seoul National University)

D9.01 [11:00 - 11:36]

**Higgs Mode and its Decay in the Two-Dimensional Antiferromagnet Ca<sub>2</sub>RuO<sub>4</sub>** / KIM Bumjoon<sup>1</sup> (<sup>1</sup>포항공과대학교, 물리학과)

D9.02 [11:36 - 12:12]

**Spin-Orbit Coupling and Correlation in Osmates** / LEE Kwan-Woo<sup>1,2</sup> (<sup>1</sup>Division of Display and Semiconductor Physics, Korea University, Sejong, <sup>2</sup>Department of Applied Physics, Graduate School, Korea University, Sejong)

D9.03 [12:12 - 12:36]

**Nonsymmorphic symmetry induced-instability and the nature of magnetism in Sr<sub>2</sub>IrO<sub>4</sub>** / 박진홍<sup>1</sup>, 이승훈<sup>2</sup>, 진호섭<sup>3</sup>, 양범정<sup>1,2,4</sup> (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science (IBS), <sup>2</sup>Department of Physics and Astronomy, Seoul National University, <sup>3</sup>Department of Physics, Ulsan National Institute of Science and Technology (UNIST), <sup>4</sup>Center for Theoretical Physics (CTP), Seoul National University)

**[D10-op] THz & Nanophotonics**

2017. 10. 26 Thursday 11:00 – 12:36

Room : 204

좌장 : 최 재 윤 한국과학기술원

Chair : CHOI Jae Yoon (KAIST)

D10.01 [11:00 - 11:24]

**Optical modulators based on graphene surface plasmons and an epsilon-near-zero effect** / 김명환<sup>1</sup>, 김상인<sup>1</sup>, 김소은<sup>1</sup> (<sup>1</sup>고등광기술연구소, GIST)

D10.02 [11:24 - 11:48]

**Light matter interaction enhanced by metallic nanostructures** / BAHK Young-Mi<sup>1</sup> (<sup>1</sup>Department of Physics, Incheon National University)

D10.03 [11:48 - 12:12]

**Ultrasensitive Terahertz Molecule Sensor Using Nano-metamaterials** / SEO Minah<sup>1</sup> (<sup>1</sup>Sensor System Research Center, Korea Institute of Science and Technology)

D10.04 [12:12 - 12:24]

**Extremely Large Nonlinear Optical Benzothiazolium Crystals for Efficient Broadband THz Wave Generation** / 강봉주<sup>1</sup>, 이승철<sup>2</sup>, 권오필<sup>2</sup>, 이상민<sup>1</sup> (<sup>1</sup>KAIST, 물리학과, <sup>2</sup>아주대학교, 응용화학생명공학과)

D10.05\* [12:24 - 12:36]

**Terahertz optical characterization of DNA hybridized graphene using nano metamaterials** / 이상훈<sup>1,2</sup>, 최종호<sup>3</sup>, 김철기<sup>2</sup>, 손주혁<sup>1</sup>, 서민아<sup>1,2</sup> (<sup>1</sup>서울시립대학교, 물리학과, <sup>2</sup>한국과학기술연구원, 센서시스템연구센터, <sup>3</sup>고려대학교, 물리학과)

**[D11-pl] Accelerator & Beam I**

2017. 10. 26 Thursday 11:00 – 12:36

Room : 205

좌좌장 : 정 모 세 울산과학기술원

Chair : CHUNG Moses (UNIST)

D11.01 [11:00 - 11:24]

**원자의 운동을 관측하는 초고속 전자회절 기술 (Time-resolved Electron Diffraction Technology for Watching Dancing Atoms)** / 정영욱<sup>1</sup> (<sup>1</sup>한국원자력연구원, 초고속방사선연구실)

D11.02 [11:24 - 11:48]

**Development and application of high power millimeter-wave/THz sources** / 김동성<sup>1</sup>, Ashwini Sawant<sup>2</sup>, 최문석<sup>1</sup>, 이인근<sup>2</sup>, 최원진<sup>1</sup>, 최은미<sup>1</sup> (<sup>1</sup>UNIST, 물리학과, <sup>2</sup>UNIST, 전기전자공학과)

D11.03 [11:48 - 12:00]

**Machine imperfection study of the RAON superconducting linac and its comparison with long cryomodule design** / JEON Dong-O<sup>1</sup>, JANG Ji-Ho<sup>1</sup> (<sup>1</sup>RISP, Institute for Basic Science)

D11,04 [12:00 - 12:12]

**Recent Progress of RFQ beam commissioning in SCL-demo for RAON / JANG Ji-Ho<sup>\*1</sup>** (<sup>1</sup>RISP, IBS)

D11,05 [12:12 - 12:24]

**Electron emission from surface curvature for QWR cryomodule / 김희태<sup>1</sup>, 정유철<sup>1</sup>, 김영권<sup>1</sup>, 이민기<sup>1</sup>, 조용우<sup>1</sup>, 최종완<sup>1</sup>, 김주완<sup>1</sup>, 정희찬<sup>1</sup>, 권영관<sup>1</sup>** (<sup>1</sup>Rare Isotope Science Project, Institute for Basic Science)

D11,06\* [12:24 - 12:36]

**Unfolding of Bremsstrahlung Photons Energy Spectrum from the 28-GHz ECR Ion Source Using a Matrix Inversion Method / KUMWENDA Mwingereza John<sup>1</sup>, JUNG Keun Ahn<sup>\*1</sup>, LEE Jongwong<sup>1</sup>, PARK Jingyong<sup>2</sup>, M.S Won<sup>2</sup>, SEONG-Jun Kim<sup>2</sup>, LUGENDO Innocent Jimmy<sup>3</sup>** (<sup>1</sup>Department of Physics, Korea University, <sup>2</sup>Korea Basic Science Institute (KBSI), Pusan National University, <sup>3</sup>Department of Physics, University of Dar es Salaam)

**[D12-ap] Photonics and optoelectronics**

2017. 10. 26 Thursday 11:00 - 12:36

Room : 206

좌장 : 전 영 철 울산과학기술원

Chair : JUN Young Chul (UNIST)

D12,01 [11:00 - 11:12]

**Fano resonances in the microwave region supported by 3D-printable hollow dielectric resonators / LEE Eunsongyi<sup>1</sup>, SEO In Cheol<sup>1</sup>, JEONG Hoon Yeub<sup>1</sup>, AN Soo-Chan<sup>1</sup>, JUN Young Chul<sup>\*1</sup>** (<sup>1</sup>School of Material Science and Engineering, Ulsan National Institute of Science and Technology)

D12,02\* [11:12 - 11:24]

**The Amplified Photocurrent by Photons in Graphene-SiO<sub>2</sub>-Si (GIS) Heterostructure with a Low Work Function Difference / 박홍기<sup>1</sup>, 최재우<sup>\*1</sup>** (<sup>1</sup>경희대학교, 정보디스플레이)

D12,03\* [11:24 - 11:36]

**Understanding charge transfer mechanism in surface enhanced Raman scattering (SERS) observed from 4-Mpy molecules adsorbed on 1-D ZnO substrates / 김자영<sup>1</sup>, 박준범<sup>2</sup>, 김혜민<sup>1</sup>, 김남중<sup>3</sup>, 이규철<sup>2</sup>, 윤석현<sup>\*1</sup>** (<sup>1</sup>이화여자대학교, 물리학과, <sup>2</sup>서울대학교, 물리학과, <sup>3</sup>육군사관학교, 물리-화학과)

D12,04\* [11:36 - 11:48]

**Optoelectronic properties and electronic structure of organic-inorganic hybrid lead halide crystals / 정혜리<sup>1,2</sup>, NGYUEN Bich Phuong<sup>1,2</sup>, NGYUEN Trang Thi Thu<sup>1,2</sup>, 윤석현<sup>1,2</sup>, 조월령<sup>\*1,2</sup>, 우원석<sup>3</sup>, 안창원<sup>3</sup>, 조신욱<sup>3</sup>,**

김일원<sup>3</sup> (<sup>1</sup>이화여자대학교, 물리학과, <sup>2</sup>이화여자대학교, Renewable Energy Research Center (NREC), <sup>3</sup>울산대학교, 물리학과)

D12,05 [11:48 - 12:00]

**Simultaneous measurement of magnetic field and temperature using a few-mode microfiber knot resonator / LE Anh Duy Duong<sup>1</sup>, SHIN Jong-Choel<sup>1</sup>, HAN Young-Geun<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Hanyang University)

D12,06\* [12:00 - 12:12]

**단층 WS<sub>2</sub>-ZnO 마이크로 막대 하이브리드 구조에서의 빛-물질 상호작용 연구 / 정진우<sup>1</sup>, 강장원<sup>1</sup>, 백재영<sup>1</sup>, 조창희<sup>\*1</sup>** (<sup>1</sup>대구경북과학기술원, 신물질과학전공)

D12,07\* [12:12 - 12:24]

**Photoluminescence characteristics of co-evaporated emitters for display application / 최규리<sup>1</sup>, 최은영<sup>1</sup>, 이연의<sup>1</sup>, 이광진<sup>1</sup>, 김경환<sup>2</sup>, 이창희<sup>2</sup>, D'ALÉO Anthony<sup>1</sup>, 우정원<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Ewha Womans University, <sup>2</sup>Department of Material Science, Seoul National University)

D12,08 [12:24 - 12:36]

**Polycrystalline Au Nanomembrane as a Tool for Two-Tone Micro/Nanolithography / JANG Jae-Won<sup>\*1</sup>** (<sup>1</sup>Physics, Pukyong National University)

**[D13-co] Pioneer: High pressure physics and superconductivity II**

2017. 10. 26 Thursday 11:00 - 12:48

Room : 300A

좌장좌장 : 김 재 용 한양대

Chair : KIM Jae Yong (Hanyang University)

D13,01 [11:00 - 11:36]

**Probing Higgs and Leggett modes in superconductors with charge density waves / CHEN Xiao-Jia<sup>\*1</sup>** (<sup>1</sup>Complex Electrons under Pressure(CEP) Group, Center for High-Pressure Science & Technology Advanced Research)

D13,02 [11:36 - 12:12]

**Phenomena and findings related to superconductivity in pressurized materials from simple to complex systems / SUN Liling<sup>\*1</sup>** (<sup>1</sup>National Key Laboratory for Superconductivity, Institute of Physics, Chinese Academy of Sciences)

D13,03 [12:12 - 12:48]

**Physical property tuning in two-dimensional transition metal dichalcogenides via high pressure / SHEN Zexiang<sup>\*1</sup>, XIA Juan<sup>1</sup>, YAN Jiaxu<sup>1</sup>** (<sup>1</sup>Division of Physics and Applied Physics, School of Physical and Mathematical Sciences, Nanyang Technological University)

**[D14-bp] Biological physics II**

2017. 10. 26 Thursday 11:00 – 12:48

Room : 300B

좌장 : 김 하 진 울산과학기술원

Chair : KIM Hajin (UNIST)

**D14.01** [11:00 - 11:24]

**20-nm resolution brain imaging via next-generation expansion microscopy / CHANG Jae-Byum<sup>\*1</sup>** (<sup>1</sup>Department of biomedical engineering, Sungkyunkwan University)

**D14.02** [11:24 - 11:48]

**Setup for Probing Protein Ion Channel in a Free Standing Lipid Membrane with Simultaneous Electrophysiological Recording / HYUN Changbae<sup>\*1</sup>** (<sup>1</sup>School of Natural Sciences, Ulsan National Institute of Science and Technology)

**D14.03\*** [11:48 - 12:00]

광 회절 단층 촬영법을 이용한 꽃가루 관측 / 박찬석<sup>1</sup>, 박용근<sup>\*1</sup>, 이승준<sup>2</sup>, 이재훈<sup>2</sup>, 허태현<sup>2</sup> (<sup>1</sup>한국과학기술원, 물리학과, <sup>2</sup>대덕고등학교, 대덕고등학교)

**D14.04\*** [12:00 - 12:12]

**Investigating 3D Structure, Chemical Content, and Membrane Stiffness of Frog Erythrocytes Using Optical Diffraction Tomography / KIM Geon<sup>1</sup>, LEE Moosung<sup>1</sup>, YOUN SeongYoen<sup>2</sup>, LEE EuiTae<sup>2</sup>, KWON Daeheon<sup>2</sup>, SHIN Jonghun<sup>2</sup>, LEE Youn Sil<sup>2</sup>, PARK YongKeun<sup>\*1</sup>** (<sup>1</sup>Departments of Physics, Korea Advanced Institutes of Science and Technology, <sup>2</sup>Autonomous Research Team, Daejeon Science High School for the Gifted)

**D14.05\*** [12:12 - 12:24]

**Single-molecule Force-Fluorescence Spectroscopy in Expanded Focal Depth / CHANG Minhyeok<sup>1</sup>, OH Jungsic<sup>1</sup>, LEE Jong-Bong<sup>\*1,2</sup>** (<sup>1</sup>Physics, Pohang University of Science and Technology, <sup>2</sup>School of Interdisciplinary Bioscience and Bioengineering, Pohang University of Science and Technology)

**D14.06\*** [12:24 - 12:36]

3차원 굴절률 측정을 통한, 단일 미세조류 세포에 저장된 지질성분의 정량화 방법 / 정재황<sup>1</sup>, 김한별<sup>2</sup>, 홍성주<sup>2</sup>, 김건<sup>1</sup>, 이무성<sup>1</sup>, 신승우<sup>1</sup>, 이상윤<sup>1</sup>, 김동진<sup>3</sup>, 이철균<sup>2</sup>, 박용근<sup>\*1</sup> (<sup>1</sup>한국과학기술원, 물리학과, <sup>2</sup>인하대학교, 생명공학과, <sup>3</sup>School of Life Science and Bioengineering, Nelson Mandela African Institution of Science and Technology)

**D14.07\*** [12:36 - 12:48]

**High-speed super-resolution imaging with FRET-PAINT / LEE Jongjin<sup>1,2</sup>, PARK Sangjun<sup>1,2</sup>, KANG Wooyoung<sup>1,2</sup>, HOHNG Sungchul<sup>\*1,2,3</sup>** (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>National

Center for Creative Research Initiatives, Seoul National University, <sup>3</sup>Institute of Applied Physics, Seoul National University)

**[D15-or] 물리학 전공 인력의 취업/수급 현황**

**Job-market and supply of physics-majors in our society**

2017.10.26 (Thu) 11:00 – 12:00

Room : 300C

좌장 : 김 윤 기 (광운대)

Chair : KIM Yunki (Kwangwoon University)

**D15.01** [11:05 - 11:35]

과학기술인력 현황과 수급전망을 통해 본 과학기술인력 발전방안 / 심정민 박사 (KISTEP)

D

## SESSION E

2017 October 26(Thu) 14:00–15:48

### [E1-pa] Accelerator-based particle physics experiments II

2017. 10. 26 Thursday 14:00 – 15:48

Room : 101

좌장 : 김 철 서울과기대

Chair : KIM Chul (Seoul National University of Science and Technology)

E1,01\* [14:00 - 14:12]

**Study of Drell-Yan differential cross section with 2016 data /** 배달민<sup>1</sup>, 유휘동<sup>1</sup> (<sup>1</sup>서울대학교, 물리천문학부)

E1,02 [14:12 - 14:24]

**Initial state radiation at LHC /** CHOI Junho<sup>1</sup>, KIM Junho<sup>1</sup>, SEO Hyon San<sup>1</sup>, PARK Jaegyun<sup>1</sup>, ALMOND John Leslie<sup>1</sup>, YANG Un-ki<sup>1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

E1,03 [14:24 - 14:36]

**A study of Initial State gluon Radiation at Tevatron using CDF data /** YU Geum Bong<sup>1</sup>, SEO Hyon San<sup>1</sup>, KIM Junho<sup>1</sup>, CHOI Junho<sup>1</sup>, YANG Un-ki<sup>1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

E1,04\* [14:36 - 14:48]

**Differential cross section measurement of ttbb in the lepton + jets decay mode /** AN Seo Hyun<sup>1</sup>, KIM Tae Jeong<sup>1</sup>, GOH Jung Hwan<sup>1</sup>, PARK Ji Won<sup>1</sup> (<sup>1</sup>Department of Physics, Hanyang University)

E1,05 [14:48 - 15:00]

**Higgs to WW measurements with 15.2/fb of 13 TeV proton-proton collisions /** 이상은<sup>1</sup>, 박상일<sup>1</sup> (<sup>1</sup>경북대학교, 물리학과)

E1,06\* [15:00 - 15:12]

**Quark Gluon Classification with Deep Learning /** YANG Seungjin<sup>1</sup>, PARK Inkyu<sup>1</sup>, LEE Jason Sang Hun<sup>1</sup>, WATSON Ian James<sup>1</sup>, LEE Yunjae<sup>1</sup>, JANG Woojin<sup>1</sup> (<sup>1</sup>Department of Physics, University of Seoul)

E1,07\* [15:12 - 15:24]

**Update on a Level-1 pixel based trigger feasibility study for HL-LHC /** 김준호<sup>1</sup>, SAVOY-NAVARRO Aure<sup>2</sup>, MOON Chang-Seong<sup>2</sup>, YU Geumbong<sup>1</sup>, KIM Jaesung<sup>1</sup>, YANG Un-Ki<sup>1</sup> (<sup>1</sup>서울대학교, 물리학과, <sup>2</sup>경북대학교, 물리학과, <sup>3</sup>Department of Physics, Paris Diderot University)

E1,08\* [15:24 - 15:36]

**Muon ID for CMS Phase II Upgrade /** PARK Inkyu<sup>1</sup>, LEE Jason Sang Hun<sup>1</sup>, JEON Dajeong<sup>1</sup> (<sup>1</sup>Department of Physics, University of Seoul)

E1,09\* [15:36 - 15:48]

**Improving Muon Isolation for CMS Phase II Upgrade /** KO Byeonghak<sup>1</sup>, PARK Inkyu<sup>1</sup>, LEE Jason Sang Hun<sup>1</sup> (<sup>1</sup>Department of Physics, University of Seoul)

### [E2-st] Biophysics

2017. 10. 26 Thursday 14:00 – 15:24

Room : 102

좌장 : 조 정 호 고등과학원

Chair : JO Junghyo (KIAS)

E2,01 [14:00 - 14:24]

**Algebraic Test of Material Conservation in Mean Field Theory of Polymers and the Use of Finite Volume Method /** KIM Jaeup<sup>1</sup>, YONG Daeseong<sup>1</sup> (<sup>1</sup>Department of Physics, UNIST)

E2,02 [14:24 - 14:36]

**Stretching elasticity of a hinged wormlike chain /** BENETATOS Panayotis<sup>1</sup> (<sup>1</sup>Department of Physics, Kyungpook National University)

E2,03 [14:36 - 14:48]

**Modeling on target search problem in chromosomes /** 이성민<sup>1</sup>, DURANG Xavier<sup>2</sup>, 이상훈<sup>2</sup>, LIZANA Ludvig<sup>3</sup>, 전재형<sup>4</sup> (<sup>1</sup>성균관대학교, 에너지과학과, <sup>2</sup>한국고등과학원, 물리학과, <sup>3</sup>Department of Physics, Umea University, <sup>4</sup>포항공과대학교, 물리학과)

E2,04 [14:48 - 15:00]

**Probing live cell mechanics and dynamics with multimodal optical force microscopy /** LEE Ga-Young<sup>1</sup>, JANG You-Na<sup>2</sup>, LEE Kea Joo<sup>2</sup>, KIM Kipom<sup>1</sup> (<sup>1</sup>Korea Brain Research Institute, Research Equipment Core Facility Team, <sup>2</sup>Korea Brain Research Institute, Department of Structure & Function of Neural Network)

E2,05 [15:00 - 15:12]

**How to build an optimal nose: Toward the statistical design principles of the olfactory receptor system /** BAK Ji Hyun<sup>1</sup> (<sup>1</sup>KIAS, School of Computational Sciences)

E2,06 [15:12 - 15:24]

**Stochastic Burst Synchronization in A Scale-Free Neural Network with Spike-Timing-Dependent Plasticity /** LIM Woochang<sup>1</sup>, KIM Sang-Yoon<sup>1</sup> (<sup>1</sup>Institute for Computational Neuroscience and Department of Science

**[E3-as] Astrophysics theories**

2017. 10. 26 Thursday 14:00 – 15:36

Room : 103

좌장 : 고 석 태 제주대학교

Chair : KOH Seoktae (Jeju National University)

E3.01 [14:00 - 14:12]

**Stability of Horizon in Kerr-Sen Black Hole** / 박보근(Bogeun Gwak)\*<sup>1</sup>

(<sup>1</sup>세종대학교, 물리천문학과)

E3.02 [14:12 - 14:24]

**Exact Solution of Wormhole Embedded in Expanding Universe** /

KIM Sung-Won\*<sup>1</sup> (<sup>1</sup>Department of Science Education, Ewha Womans University)

E3.03 [14:24 - 14:36]

**Revisiting the Blandford-Payne Process** / KIM Dong-Hoon<sup>1</sup>, KIM

Hongsu\*<sup>2</sup> (<sup>1</sup>Department of Physics and Astronomy - Astronomy Program, Seoul National University, <sup>2</sup>Optical Astronomy Division, Korea Astronomy and Space Science Institute)

E3.04 [14:36 - 14:48]

**Cosmic observables as building blocks of Modified gravities** /

이석천<sup>1</sup>, 현영환<sup>2</sup>, 김윤배<sup>2</sup> (<sup>1</sup>경상대학교, 기초과학연구소, <sup>2</sup>성균관대학교, 물리학과)

E3.05 [14:48 - 15:00]

**Heat capacity of a self-gravitating spherical shell of radiations** /

김형찬<sup>1</sup> (<sup>1</sup>한국교통대학교, 교양학부)

E3.06 [15:00 - 15:12]

**Cosmological Constraint on Anisotropic Conformal Gravity in**

**Five Dimensions** / KOUWN Seyen<sup>1</sup>, OH Phillial\*<sup>2</sup>, PARK Chan-Gyung<sup>3</sup>

(<sup>1</sup>Center for Theoretical Astronomy, Korea Astronomy and Space Science Institute, <sup>2</sup>Department of Physics, Sungkyunkwan University, <sup>3</sup>Division of Science Education and Institute of Fusion Science, Chonbuk National University)

E3.07 [15:12 - 15:24]

**General Relativity and Closed String Field Theory** / LEE Taejin\*<sup>1</sup>

(<sup>1</sup>Physics, Kangwon National University)

E3.08 [15:24 - 15:36]

**Entropy evolution of moving mirrors and the information loss**

**problem** / YEOM Dong-han\*<sup>1</sup> (<sup>1</sup>Physics, Asia Pacific Center for Theoretical Physics)

**E [E4-nu] Pioneer: Structure of nuclei and hadrons I**

2017. 10. 26 Thursday 14:00 – 15:48

Room : 104

좌장 : 권 영 관 기초과학연구원

Chair : KWON Young-Kwan (IBS)

E4.01 [14:00 - 14:27]

**Direct measurement of the  $7\text{Be}(n,\alpha)4\text{He}$  reaction cross sections for the cosmological Li problem** / KAWABATA Takahiro\*<sup>1</sup>, FURUNO T.<sup>1</sup>,

HASHIMOTO T.<sup>1</sup>, ICHIKAWA M.<sup>1</sup>, ITOH M.<sup>2</sup>, IWASA N.<sup>3</sup>, KANADA-EN'YO Y.<sup>1</sup>, KOSHIKAWA A.<sup>1</sup>, KUBONO S.<sup>4</sup>, MIYAWAKI E.<sup>1</sup>, MIZUTANI K.<sup>1</sup>, MORIMOTO T.<sup>1</sup>, MURATA M.<sup>1</sup>, NANAMURA T.<sup>1</sup>, NISHIMURA S.<sup>4</sup>, SAWADA R.<sup>5</sup>, TAKEDA T.<sup>1</sup>, TSUMURA M.<sup>1</sup>, WATANABE K.<sup>1</sup>, YOSHIDA S.<sup>6</sup> (<sup>1</sup>Department of Physics, Kyoto University, <sup>2</sup>Research Reactor Institute, Nuclear Engineering Science Division, Kyoto University, <sup>3</sup>Department of Physics, Tohoku University, <sup>4</sup>Japan, RIKEN, <sup>5</sup>Department of Astronomy, Kyoto University, <sup>6</sup>Department of Physics, The University of Tokyo)

E4.02 [14:27 - 14:54]

**Big Bang Nucleosynthesis and Beyond** / CHEOUN Myung-Ki\*<sup>1</sup>,

KUSAKABE Motohiko<sup>2</sup>, KAJINO T.<sup>3</sup>, MATHEWS G.<sup>4</sup> (<sup>1</sup>Physics, Soongsil University, <sup>2</sup>Physics, Beihang University, Peking, China, <sup>3</sup>Theoretical Dept., NAOJ, Japan, <sup>4</sup>Physics, U. of North Dame)

E4.03 [14:54 - 15:21]

**$\gamma$ -ray spectroscopy in the closest vicinity of  $78\text{Ni}$  at RIBF** / NIKURA

Megumi\*<sup>1</sup> (<sup>1</sup>Department of Physics, the University of Tokyo)

E4.04 [15:21 - 15:48]

**Nuclear structure study on iodine and tellurium isotopes using**

**in-beam and  $\beta$ -delayed  $\gamma$ -ray spectroscopy** / MOON

Byul<sup>1</sup>, MOON Chang-Bum\*<sup>2</sup>, HONG Byungsik<sup>1</sup> (<sup>1</sup>Department of Physics, Korea University, <sup>2</sup>Department of Physics, Hoseo University)

**[E5-te] Physics Teaching**

2017. 10. 26 Thursday 14:00 – 15:12

Room : 105

좌장 : 박 윤 배 경북대학교

Chair : PARK Yune Bae (Kyungpook National University)

E5.01 [14:00 - 14:12]

**중학생들의 ‘운동’ 관련 그래프 문제 해결 과정에서의 시선이동 분석** /

송혜영<sup>1</sup>, 윤은정<sup>2</sup>, 박윤배\*<sup>2</sup> (<sup>1</sup>월배중학교, <sup>2</sup>경북대학교, 물리교육과)

E5.02 [14:12 - 14:24]

**한국물리학회 여고생 물리캠프 참여 경험에 대한 여학생의 인식 조사**

**/ 강남화<sup>1</sup>, 이나리<sup>1</sup>, 정란주<sup>2</sup>** (<sup>1</sup>한국교원대학교, 물리교육과, <sup>2</sup>광운대학교,



전자바이오물리학과)

E5.03 [14:24 - 14:36]

물리정체성 검사도구 개발 및 우리나라 여학생 물리정체성의 특성 연구 / 강남화<sup>1</sup>, 이나리<sup>1</sup> (<sup>1</sup>한국교원대학교, 물리교육과)

E5.04 [14:36 - 14:48]

효과적인 교수 자료의 개발을 위한 물리 예비교사의 튜토리얼 수정 내용 분석 / 지영래<sup>1</sup> (<sup>1</sup>서울대학교, 물리교육과)

E5.05 [14:48 - 15:00]

'교사를 위한 일반상대론' 강의개발 및 적용 : 원전 논문 활용의 가능성 / 김홍빈<sup>1</sup>, 이경호<sup>1</sup> (<sup>1</sup>서울대학교, 물리교육과)

E5.06\* [15:00 - 15:12]

디즈니 문화를 기반으로 한 인공지능 시대의 한국 과학교육 콘텐츠 개발 / 이수아<sup>1</sup>, 박윤배<sup>2</sup> (<sup>1</sup>ScienArt 연구소, 과학교육, <sup>2</sup>경북대학교, 과학교육과)

**[E6-se] Focus: Dirac&Weyl Semimetals I**

2017. 10. 26 Thursday 14:00 – 15:36

Room : 106

좌장 : 황 의 현 성균관대학교

Chair : HWANG Euyheon (Sungkyunkwan University)

E6.01 [14:00 - 14:24]

What Topology Gives Physics and Does Not / CHOI Mahn-Soo<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea University)

E6.02 [14:24 - 14:48]

Role of chiral anomaly in anomalous transport phenomena of Weyl metals / 김기석<sup>1</sup> (<sup>1</sup>물리학과, 포항공과대학교)

E6.03 [14:48 - 15:12]

Breakdown of Ohm's law as a hallmark of the Weyl metal state / KIM Heon-Jung<sup>\*1</sup> (<sup>1</sup>Department of Physics, Daegu University)

E6.04 [15:12 - 15:36]

Exploring Dirac and Weyl Semimetals with Angle-Resolved Photoemission Spectroscopy / KIM Keun Su<sup>\*1</sup> (<sup>1</sup>Department of Physics, Yonsei University)

**[E7-co] Pioneer: Oxides for energy application III**

2017. 10. 26 Thursday 14:00 – 15:24

Room : 201

좌장 : 부 상 돈 전북대

Chair : BU Sang Don (Chonbuk National University)

E7.01 [14:00 - 14:24]

Flexible ferroelectric nanowires and films for mechanical and thermal energy harvesting in harsh environments / JUNG JongHoon<sup>\*1</sup> (<sup>1</sup>Department of Physics, Inha University)

E7.02 [14:24 - 14:48]

Thermoelectric behavior in epitaxial polycrystalline thin films / CHOI Woo Seok<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University)

E7.03 [14:48 - 15:12]

X-ray Scattering Studies of Functional Oxides for Energy Systems / CHANG Seo Hyoung<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chung-Ang University)

E7.04 [15:12 - 15:24]

Energy related application of HfO<sub>2</sub>-ZrO<sub>2</sub> solid solution thin films and their scale-up for the electrostatic supercapacitors / KIM Keum Do<sup>\*1</sup>, KIM Yu Jin<sup>1</sup>, KIM Han Joon<sup>1</sup>, MOON Taehwan<sup>1</sup>, LEE Young Hwan<sup>1</sup>, HYUN Seung Dam<sup>1</sup>, PARK Hyeon Woo<sup>1</sup>, GWON Taehong<sup>1</sup>, PARK Min Hyuk<sup>1,2</sup>, HWANG Cheol Seong<sup>1</sup> (<sup>1</sup>Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University, <sup>2</sup>NaMLab gGmbH)

**[E8-co] Focus: Orbital polarization & Rashba spin-momentum coupling I**

2017. 10. 26 Thursday 14:00 – 15:48

Room : 202

좌장 : 최 형 준 연세대

Chair : CHOI Hyoung Joon (Yonsei University)

E8.01 [14:00 - 14:28]

Competing orbital angular momenta of Rashba states localized in an interface between two heavy elements / SONG Inkyung<sup>1,2</sup>, RYU Hanyoung<sup>1,2</sup>, PARK Seung Ryong<sup>3</sup>, KIM Changyoung<sup>\*1,2</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>3</sup>Department of Physics, Incheon National University)

E8.02 [14:28 - 14:56]

Spin-momentum coupling through spin-orbit entanglement / SOHN Jeonghun<sup>1</sup>, GO Dongwook<sup>1</sup>, LEE Hyun-Woo<sup>\*1</sup> (<sup>1</sup>Department of Physics, Pohang University of Science and Technology)

E8.03 [14:56 - 15:24]

Silicon, germanium, gallium arsenide, MoS<sub>2</sub>, WSe<sub>2</sub>에 숨은 궤도 분극 / 박철환<sup>1</sup> (<sup>1</sup>서울대학교, 물리천문학부)

E8,04 [15:24 - 15:36]

**Switchable Rashba Effect by Bi-epitaxial Strain** / 이현재<sup>1</sup>, 이민성<sup>1</sup>, MOHAMMAD NOOR A ALAM<sup>1</sup>, 이준혁<sup>\*1</sup> (<sup>1</sup>울산과학기술원, 에너지공학과)

E8,05\* [15:36 - 15:48]

**Intrinsic spin and orbital Hall effect form the atomic orbital hybridization** / GO Dongwook<sup>1</sup>, KIM Changyoung<sup>2</sup>, LEE Hyun-Woo<sup>\*1</sup>  
(<sup>1</sup>Department of Physics, Pohang University of Science and Technology, <sup>2</sup>Department of Physics and Astronomy, Seoul National University)

**[E9-co] Pioneer: Pseudo-gaps in high T<sub>c</sub> superconductor I**

2017. 10. 26 Thursday 14:00 – 15:36

Room : 203

좌장 : 김 창 영 서울대

Chair : KIM Changyoung (Seoul National University)

E9,01 [14:00 - 14:24]

**Nematic phase transition at the onset of pseudogap in YBCO and Hg1201** / MATSUDA Yuji<sup>\*1</sup> (<sup>1</sup>Department of Physics, Kyoto University)

E9,02 [14:24 - 14:48]

**Investigation of pseudo-gap and Lifshitz transition in electron-doped cuprate high-T<sub>c</sub> superconductor Pr<sub>1-x</sub>LaCe<sub>x</sub>CuO<sub>4-δ</sub> by means of angle resolved photoemission spectroscopy** / SONG Dongjoon<sup>\*1</sup>, EISAKI H.<sup>1</sup>, YOSHIDA Y.<sup>1</sup>, JUNG Woobin<sup>2,3</sup>, HAN Garam<sup>2,3</sup>, KYUNG Wonshik<sup>2,3</sup>, SEO Jeongjin<sup>2,4</sup>, CHO Soohyun<sup>2,4</sup>, KIM Beom Seo<sup>2,3</sup>, HUH Soon Sang<sup>2,3</sup>, KIM Yeongkwan<sup>5</sup>, PARK Seung Ryong<sup>6</sup>, KIM C.<sup>2,3</sup> (<sup>1</sup>Electronics and Photonics Research Institute, Japan, National Institute of Advanced Industrial Science and Technology (AIST), <sup>2</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>3</sup>Department of Physics and Astronomy, Seoul National University, <sup>4</sup>Institute of Physics and Applied Physics, Yonsei University, <sup>5</sup>Department of Physics, Korea Advanced Institute of Science and Technology, <sup>6</sup>Department of Physics, Incheon National University)

E9,03 [14:48 - 15:12]

**Infrared Pseudogap in (Sr<sub>1-x</sub>La<sub>x</sub>)<sub>2</sub>IrO<sub>4</sub>** / MOON Soonjae<sup>\*1</sup> (<sup>1</sup>Department of Physics, Hanyang University)

E9,04 [15:12 - 15:36]

**The three superconducting phases in iron-chalcogenides** / HU Jianping<sup>\*1</sup> (<sup>1</sup>China, Institute of Physics Chinese Academy of Sciences)

**[E10-op] Focus : 2D Material photonics I**

2017. 10. 26 Thursday 14:00 – 15:45

Room : 204

좌장 : 이 상 민 한국과학기술원

Chair : ROTERMUND Fabian (KAIST)

E10,01 [14:00 - 14:35]

**High optical gain in MoS<sub>2</sub> using a wafer-scale plasmonic substrate** / 양희준<sup>\*1</sup> (<sup>1</sup>성균관대학교, 에너지공학과)

E10,02 [14:35 - 15:10]

**Optoelectronic manipulation of valley-locked spin-polarized photocurrent in WSe<sub>2</sub>-graphene-topological insulator heterostructures** / CHOI Hyunyoung<sup>\*1</sup>, CHA Soonyoung<sup>1</sup>, NOH Minji<sup>1</sup>, KIM Je-Hyun<sup>2</sup>, SON Jangyup<sup>2,3</sup>, BAE Hyemin<sup>1</sup>, LEE Doeon<sup>1</sup>, KIM Hoil<sup>4</sup>, CHO Seungwan<sup>1</sup>, SHIN Hoseung<sup>1</sup>, SIM Sangwan<sup>1</sup>, YANG Seunghoon<sup>5</sup>, LEE Chul-Ho<sup>5</sup>, JO Moon-Ho<sup>6,7</sup>, KIM Jun Sung<sup>4</sup>, KIM Dohun<sup>2</sup> (<sup>1</sup>School of Electrical and Electronic Engineering, Yonsei University, <sup>2</sup>Department of Physics and Astronomy, Seoul National University, <sup>3</sup>Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, <sup>4</sup>Department of Physics, Pohang University of Science and Technology (POSTECH), <sup>5</sup>KU-KIST Graduate School of Converging Science and Technology, Korea University, <sup>6</sup>Center for Artificial Low Dimensional Electronic Systems, Institute for Basic Science (IBS), <sup>7</sup>Division of Advanced Materials Science and <sup>8</sup>Department of Materials Science and Engineering, Pohang University of Science and Technology (POSTECH))

E10,03 [15:10 - 15:45]

**Layer-by-layer Assembly of Atomically Thin Films for Designing 2D Metamaterials** / KIM Cheol-Joo<sup>\*1</sup>, YANG Seong Jun<sup>1</sup>, CHOI Shin Young<sup>1</sup> (<sup>1</sup>Department of Chemical Engineering, Pohang University of Science and Technology)

**[E11-pl] Focus: Recent advances in accelerator technology: superconducting technology and PAL-XFEL I**

2017. 10. 26 Thursday 14:00 – 15:48

Room : 205

좌장 : 강 흥 식 포항가속기연구소

Chair : KANG Hung Sik (POSTECH)

E11,01 [14:00 - 14:24]

**The current status of superconducting cavities development for RAON** / JUNG Hoechun<sup>\*1</sup>, KIM Youngkwon<sup>1</sup>, JOO Jongdae<sup>1</sup>, SEOL Kyeongtae<sup>1</sup>, JANG Hyojae<sup>1</sup> (<sup>1</sup>Rare Isotope Science Project, Institute for Basic Science)

E11,02 [14:24 - 14:48]

**KOMAC 초전도 가속기 개발 현황** / 김한성<sup>\*1</sup> (<sup>1</sup>한국원자력연구원, 양성자가속기연구센터 가속기개발실)

E11,03 [14:48 - 15:12]

**Operation experience of PLS-II Superconducting RF System** / 신승환, 주영도<sup>1</sup>, 박인수<sup>1</sup>, 손영욱, 전명환, 유인하, 박종도, 김동언<sup>1</sup>, 이기봉<sup>1,2</sup> (<sup>1</sup>포항가속기연구소, -, <sup>2</sup>포항공과대학교, 첨단원자력공학부)

E11.04 [15:12 - 15:36]

**The current status of superconducting magnet for IF(In-flight Fragment) separator of RISP** / CHOI Sukjin<sup>\*1</sup>, JO Hyun Chul<sup>1</sup>, KIM Do Gyun<sup>1</sup>, SIM Ki Deok<sup>1</sup>, JANG Hyun Mans<sup>1</sup> (<sup>1</sup>Rare Isotope Science Project, Institute for Basic Science)

E11.05 [15:36 - 15:48]

**Processing of Superconducting Cavities** / JUNG Yoochul<sup>\*1</sup> (<sup>1</sup>RISP, Institute for Basic Science)

**[E12-ap] Advanced materials syntheses and charcterizations**

2017. 10. 26 Thursday 14:00 – 15:24

Room : 206

좌장 : 정 권 범 동국대

Chair : CHUNG Kwun Bum (Dongguk University)

E12.01\* [14:00 - 14:12]

**Preferential growth of In2S3 films in [103] direction and their unusual photoluminescence property** / 심유민<sup>1</sup>, 김진배<sup>1</sup>, 장서형<sup>1</sup>, 최철중<sup>2</sup>, 성맹제<sup>\*1</sup> (<sup>1</sup>중앙대학교, 물리학과, <sup>2</sup>전북대학교, 반도체과학기술학과)

E12.02 [14:12 - 14:24]

**Solvent Dynamics of Several Deep-Eutectic Solvents Measured by Time-Related Single Photon Counting** / TURNER Adam H.<sup>1</sup>, KIM Doseok<sup>\*1</sup> (<sup>1</sup>Physics, Sogang University)

E12.03\* [14:24 - 14:36]

**화학용액성장법에 의한 Cu2ZnSnS4/CdS 광기전력 태양전지 제조 및 특성** / 김미리<sup>1</sup>, 김솔아<sup>1</sup>, 김의태<sup>\*1</sup> (<sup>1</sup>충남대학교, 신소재공학과)

E12.04\* [14:36 - 14:48]

**Low-frequency Raman Spectroscopy of Few-layer 2H-SnS2** / SRIV Tharith<sup>1</sup>, KIM Kangwon<sup>1</sup>, CHEONG Hyeonsik<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sogang University)

E12.05\* [14:48 - 15:00]

**Na 첨가에 따른 NiO의 결함과 비저항의 상관관계 연구** / 양서진<sup>1</sup>, 김지웅<sup>1</sup>, 송세환<sup>1</sup>, 이두용<sup>1</sup>, 주태성<sup>1</sup>, 배종성<sup>2</sup>, 박성균<sup>\*1</sup> (<sup>1</sup>부산대학교, 물리학과, <sup>2</sup>한국기초과학지원연구원, 부산센터)

E12.06 [15:00 - 15:12]

**2차원 음향 루네버그 렌즈의 구현** / 박춘만<sup>1</sup>, 이상훈<sup>\*2</sup> (<sup>1</sup>동아대학교, 재료물리학과, <sup>2</sup>서남대학교, 보건의료공학과)

E12.07 [15:12 - 15:24]

**쓰나미 렌즈** / 김상훈<sup>\*1</sup> (<sup>1</sup>목포해양대학교, 기관공학부)

**[E13-co] Condensed-matter computational physics I**

2017. 10. 26 Thursday 14:00 – 15:36

Room : 300A

좌장 : 박 노 정 울산과학기술원

Chair : PARK Noejung (UNIST)

E13.01 [14:00 - 14:24]

**Non-Equilibrium Inelastic Transport: Recast in the Scattering Theory Perspective** / KIM Sejoong<sup>\*1</sup> (<sup>1</sup>Office of Academic and Student Affairs, University of Science and Technology(UST)-Korea)

E13.02 [14:24 - 14:36]

**The charge density waves and the correlation effects in Na2Ti2P2O (P = Sb, As)** / KIM Heejeung<sup>1</sup>, SHIM J. H.<sup>3</sup>, KIM Kyoo<sup>2</sup>, MIN B. I.<sup>\*1</sup> (<sup>1</sup>Department of Physics, POSTECH, <sup>2</sup>MPPC CPM, POSTECH, <sup>3</sup>Department of Chemistry, POSTECH)

E13.03 [14:36 - 14:48]

**Magnetic Solitons in a Coupled Double Peierls Chain** / KIM Gyuhyeong<sup>1</sup>, LEE Sunghoon<sup>1,2</sup>, YEOM Hanwoong<sup>\*1,3</sup> (<sup>1</sup>Center for Artificial Low Dimensional Electronic Systems, Institute for Basic Science, <sup>2</sup> Department of Applied Physics, Kyung Hee University, <sup>3</sup>Department of Physics, Pohang University of Science and Technology)

E13.04 [14:48 - 15:00]

**Continuum Model of Gas Uptake for Inhomogeneous Fluids** / IHM Yungok<sup>\*1,2</sup>, COOPER Valentino R.<sup>2</sup>, VLCEK Lukas<sup>2</sup>, SHIM Ji Hoon<sup>1</sup>, MORRIS James R.<sup>2</sup> (<sup>1</sup>Department of Chemistry, Pohang University of Science and Technology, <sup>2</sup>Materials Science and Technology Division, Oak Ridge National Lab)

E13.05 [15:00 - 15:12]

**Novel 2D Semiconductors ZrNCl and HfNCl: Stability, Transport, and Thermoelectric Properties** / YUN Won Seok<sup>1</sup>, LEE J. D.<sup>\*1</sup> (<sup>1</sup>Dept. of Emerging Materials Science, DGIST)

E13.06 [15:12 - 15:24]

**Doping induced phase transitions in single-layer 1T'-MoTe2 and WTe2** / 이준호<sup>1</sup>, 손영우<sup>\*1</sup> (<sup>1</sup>School of Computational Sciences, Korea Institute for Advanced Study)

E13.07 [15:24 - 15:36]

**Origin of very fast diffusion of Na+-solvent cointercalation species in graphite vs. slow diffusion of Li+-solvent case** / JUNG Sung Chul<sup>1</sup>, KANG Yong-Ju<sup>2</sup>, HAN Young-Kyu<sup>\*2</sup> (<sup>1</sup>Department of Physics, Pukyong University, <sup>2</sup>Department of Energy and Materials Engineering, Dongguk University)

**[E14-or] 여성위원회 강연**

**The lecture of the committee on the status of women in physics**

2017.10.26 Thursday 14:00 – 15:48

Room : 300B

좌장 : 정 란 주 광운대

Chair : JUNG Ranju (Kwangwoon University)

**E14.01** [14:05 – 14:35]

**여성물리학자? 평생물리학도! / 김영순(명지대)**

**E14.02** [14:35 – 15:05]

**Developing Gender Indicators in Science and Technology from National Innovation Systems (NIS) Perspective / 박영아 (전 KISTEP원장, 명지대)**

**[E15-or] APCTP 기조강연**

**APCTP Keynote Talk**

2017.10.26 Thursday 14:00 – 15:00

Room : 300C

좌장 : 신 상 진 한양대

Chair : SIN Sang-Jin (Hanyang University)

**E15.01** [14:00 – 15:00]

**Resolving Singularities in General Relativity - MUKHANOV Viatcheslav F. (Arnold Sommerfeld Center for Theoretical Physics (ASC))**

**SESSION F**

2017 October 26(Thu) 16:00–17:48

**[F1-pa] Accelerator-based particle physics experiments III**

2017. 10. 26 Thursday 16:00 – 17:36

Room : 101

좌장 : 이 상 훈 서울시립대

Chair : LEE Jason (University of Seoul)

**F1.01\*** [16:00 - 16:12]

**Search for Heavy Majorana Neutrinos in the Events with Di-lepton and Jets Using the CMS Detector in pp Collisions at  $\sqrt{s} = 13$  TeV / 김재성<sup>1</sup>, John L. Almond<sup>1</sup>, 전시현<sup>1</sup>, 이경필<sup>1</sup>, 이한열<sup>1</sup>, 오성빈<sup>1</sup>, 배달민<sup>1</sup>, 양운기<sup>1</sup> (<sup>1</sup>서울대학교, 물리천문학부)**

**F1.02\*** [16:12 - 16:24]

**Search for high mass resonances decaying into four lepton final state at 13 TeV with the CMS detector / 이준빈<sup>1</sup>, 유휘동<sup>1</sup>, 남경욱<sup>1</sup> (서울대학교, 물리학과)**

**F1.03\*** [16:24 - 16:36]

**Search for the standard model four top quark production in same-sign and multi lepton decay channel / CHOI Suyong<sup>1</sup>, CHO Sungwoong<sup>1</sup>, LIM Jaehoon<sup>1</sup> (<sup>1</sup>Department of Physics, Korea University)**

**F1.04\*** [16:36 - 16:48]

**Search for the flavor-changing neutral higgs decaying to  $b\bar{b}$  using deep learning method with 36 fb<sup>-1</sup> at 13 TeV / GOH Junghwan<sup>1</sup>, KIM Tae Jeong<sup>1</sup>, PARK Jiwon<sup>1</sup>, AHN Seohyun<sup>1</sup> (<sup>1</sup>Department of Physics, Hanyang University)**

**F1.05** [16:48 - 17:00]

**Search for Charged Higgs Boson Decaying to W Boson and Pseudo-scalar Higgs Boson at 13TeV using CMS Detector / 변지환<sup>1</sup>, John Leslie Almond<sup>1</sup>, 유금봉<sup>1</sup>, 양운기<sup>1</sup> (<sup>1</sup>서울대학교, 물리천문학부)**

**F1.06\*** [17:00 - 17:12]

**Search for a light charged Higgs boson decaying to  $c\bar{b}$  in pp collisions at  $\sqrt{s} = 13$  TeV / OH Byung-Hun<sup>1</sup>, YOON Inseok<sup>1</sup>, YU GeumBong<sup>1</sup>, ALMOND John Leslie<sup>1</sup>, YANG Un-ki<sup>1</sup> (<sup>1</sup>Department of Physics, Seoul National University)**

**F1.07** [17:12 - 17:24]

**Tests of thin double-gap RPCs at the Gamma Irradiation Facility**

**for the CMS experiment /** JEONG Sumin<sup>\*1</sup>, CHO Sungwoong<sup>2</sup>, CHOI Suyong<sup>2</sup>, GOH Junghwan<sup>1</sup>, JO Youngmin<sup>2</sup>, KANG Minho<sup>2</sup>, KIM Taejeong<sup>1</sup>, LEE Kyongsei<sup>2</sup>, LIM Jaehoon<sup>2</sup>, PARK Sungkeun<sup>2</sup>, RYOO Kwangrok<sup>2</sup> (<sup>1</sup>Department of physics, Hanyang University, <sup>2</sup>Department of physics and KODEL, Korea University)

F1.08 [17:24 - 17:36]

**Upgrade of the RPC system of the CMS Muon Spectrometer /** GELMI Andrea<sup>\*1</sup> (<sup>1</sup>Department of Physics, INFN and University of Bari)

**[F2-st] Complex systems II / Phase transition**

2017. 10. 26 Thursday 16:00 – 17:48

Room : 102

좌장 : 하 미 순 조선대학교

Chair : HA Meesoon (Chosun University)

F2.01 [16:00 - 16:24]

**Enhanced storage capacity with errors in scale-free Hopfield neural networks: an analytical study /** KIM Do-Hyun<sup>\*1</sup>, PARK Jinha<sup>2</sup>, KAHNG Byungnam<sup>2</sup> (<sup>1</sup>Department of Physics, Sogang University, <sup>2</sup>CCSS, CTP and Department of Physics and Astronomy, Seoul National University)

F2.02 [16:24 - 16:36]

**Computational solution for the three-person public-goods game /** MURASE Yohsuke<sup>1</sup>, BAEK Seung Ki<sup>\*2</sup> (<sup>1</sup>Advanced Institute for Computational Science, RIKEN, <sup>2</sup>Department of Physics, Pukyong National University)

F2.03\* [16:36 - 16:48]

**음성인식과 문자인식에서 딥러닝의 차별성 /** SEONG Yeol-heon<sup>1</sup>, KIM Hyunjae<sup>1</sup>, KIM Minseong<sup>2</sup>, PARK Maruchan<sup>1</sup>, YOO Jaeyun<sup>1</sup>, LEE Wooseok<sup>1</sup>, AHN Kang-Hun<sup>\*1</sup> (<sup>1</sup>충남대학교, 물리학과, <sup>2</sup>충남대학교, 항공우주공학과)

F2.04 [16:48 - 17:00]

**Finite-size scaling and dynamic fluctuation in the Kuramoto model with generalized unimodal distribution of natural frequencies /** 엄재곤<sup>\*1</sup>, 최철호<sup>2</sup>, 홍현숙<sup>3</sup>, 박형규<sup>4</sup> (<sup>1</sup>서울대학교, 물리학과, <sup>2</sup>고등과학원, 계산과학부, <sup>3</sup>전북대학교, 물리학과, <sup>4</sup>고등과학원, 물리학부)

F2.05 [17:00 - 17:12]

**Machine Learning classification of phases in two-dimensional Ising model /** 조하곤<sup>1</sup>, 이효원<sup>2</sup>, 이지우<sup>\*1</sup> (<sup>1</sup>명지대학교, 물리학과, <sup>2</sup>고려대학교, 컴퓨터공학과)

F2.06\* [17:12 - 17:24]

**Solution of non-enclaves percolation on the Bethe lattice. /** GWAK Sang-Hwan<sup>1</sup>, GOH K.-I<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea University)

F2.07\* [17:24 - 17:36]

**Scaling and criticality of the Manning transition /** 차민령<sup>1</sup>, 이주연<sup>2</sup>, 김용운<sup>\*1</sup> (<sup>1</sup>KAIST, 나노과학기술대학원, <sup>2</sup>부산대학교, 물리학과)

F2.08\* [17:36 - 17:48]

**Partition function zero calculation of q-state clock model using higher-order tensor renormalization group /** 홍성표<sup>1</sup>, 김동희<sup>\*1</sup> (<sup>1</sup>광주과학기술원, 물리광과학과)

**[F3-as] See [T4-as] for 'Tutorial: Quantum entanglement and gravity'**

**[E] [F4-nu] Pioneer: Structure of nuclei and hadrons II**

2017. 10. 26 Thursday 16:00 – 17:48

Room : 104

좌장 : 김 현 철 인하대

Chair : KIM Hyun Chul (Inha University)

F4.01 [16:00 - 16:27]

**Progress on structure functions of hadrons /** KUMANO Shunzo<sup>\*1</sup> (<sup>1</sup>KEK/J-PARC)

F4.02 [16:27 - 16:54]

**Effective Lagrangian of high-spin baryons /** OH Yongseok<sup>\*1</sup>, KIM Sang-Ho<sup>2</sup> (<sup>1</sup>Department of Physics, Kyungpook National University, <sup>2</sup>APCTP)

F4.03 [16:54 - 17:21]

**Nucleon Spin Physics at RHIC and EIC /** GOTO Yuji<sup>\*1</sup> (<sup>1</sup>RIKEN/RBRC)

F4.04 [17:21 - 17:48]

**Hadrons in nuclear medium /** LEE Su Hwang<sup>\*1</sup> (<sup>1</sup>Physics, Yonsei University)

**[F5-se] Low dimensional nano-materials**

2017. 10. 26 Thursday 16:00 – 17:48

Room : 105

좌장 : 김 기 강 동국대학교

Chair : KIM Ki Kang (Dongguk University)

F5.01\* [16:00 - 16:12]

**단일층 WSe<sub>2</sub> valley의 선택적 여기에 따른 exciton valley dynamics /** 박정재<sup>1</sup>, 이기주<sup>\*1</sup> (<sup>1</sup>충남대학교, 물리학과)

F5.02\* [16:12 - 16:24]

**Excitation energy dependence of coherent phonon in single-layer MoSe<sub>2</sub> /** 정태영<sup>1,2</sup>, 이성연<sup>1</sup>, 정수용<sup>2</sup>, 이기주<sup>\*1</sup> (<sup>1</sup>충남대학교, 물리학과,

F5,03 [16:24 - 16:36]

**Conformal growth of atomic thick MoS<sub>2</sub> on rugged substrates using metal-organic chemical vapor deposition** / NGUYEN Tri Khoa<sup>1</sup>, NGUYEN Anh Duc<sup>1</sup>, YUN Jong-Won<sup>1</sup>, LEE Sung-Han<sup>1</sup>, KIM Yong Soo<sup>\*1</sup>  
(<sup>1</sup>Department of Physics and Energy Harvest-Storage Research Center (EH5RC), University of Ulsan)

F5,04 [16:36 - 16:48]

**Hydrogen interaction with sulfur vacancies on a slipped MoS<sub>2</sub> surface** / HAN Sang Wook<sup>1</sup>, PARK Youngsin<sup>2</sup>, LI Nannan<sup>2</sup>, LEE Geunsik<sup>2</sup>, KIM Kyoo<sup>3</sup>, HONG S. C.<sup>\*1</sup> (<sup>1</sup>Department of Physics and Energy Harvest-Storage Research Center, University of Ulsan, <sup>2</sup>Department of Chemistry and Physics, School of Natural Science, Ulsan National Institute of Science and Technology, <sup>3</sup>Department of Physics, PCTP, Pohang University of Science and Technology)

F5,05 [16:48 - 17:00]

**Multiple, identical solid-state quantum emitters on-a-chip** / KIM Je-hyung<sup>\*1</sup> (<sup>1</sup>Department of Physics, UNIST)

F5,06\* [17:00 - 17:12]

**One-atom thick mask and etch stop of fluorinated graphene for van der Waals heterostructure devices** / KWON Junyoung<sup>1</sup>, SON Jangyup<sup>2</sup>, LEE Jong-Young<sup>1</sup>, RYU Huije<sup>1</sup>, KIM Sun-Phil<sup>2</sup>, LV Yinchuan<sup>3</sup>, HUANG Pinshane Y.<sup>3</sup>, VAN DER ZANDE Arend<sup>2</sup>, LEE Gwan-Hyoung<sup>\*1</sup> (<sup>1</sup>Department of Materials Science and Engineering, Yonsei university, <sup>2</sup>Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, <sup>3</sup>Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign)

F5,07 [17:12 - 17:24]

**van der Waals epitaxial growth of  $\alpha$ -MoO<sub>3</sub> nanosheets on various 2D substrates** / KIM Jong Hun<sup>1</sup>, DASH Jatis Kumar<sup>1</sup>, KWON Jun-Young<sup>1,2</sup>, HYUN Changbae<sup>2</sup>, LEE Gwan-Hyoung<sup>\*1</sup> (<sup>1</sup>Department of Materials Science and Engineering, Yonsei University, <sup>2</sup>Department of Chemistry, Ulsan National Institute of Science and Technology)

F5,08\* [17:24 - 17:36]

**고 품질의 단일 층 h-BN 합성 및 응용** / YEO Dongkyu<sup>1,2</sup>, SEO Tae-hoon<sup>2</sup>, LEE Gunhee<sup>1</sup>, KIM Heesu<sup>1,2</sup>, SUH Eunkyoung<sup>1</sup>, KIM Myungjong<sup>\*2</sup> (<sup>1</sup>School of Semiconductor and Chemical Engineering, Chonbuk National University, <sup>2</sup>Applied Quantum Composites Research Center, Korea Institute of Science and Technology)

[F6-se] Focus: Dirac&Weyl Semimetals II / nano-materials

2017. 10. 26 Thursday 16:00 - 17:48

Room : 106

좌장 : 최 수 봉 인천대학교

Chair : CHOI Soo Bong (Incheon National University)

F6,01 [16:00 - 16:24]

**Scanning tunneling microscopy observation of Weyl semimetal** / KIM Tae-Hwan<sup>\*1</sup> (<sup>1</sup>Department of Physics, POSTECH)

F6,02 [16:24 - 16:48]

**Coulomb interaction effects on Dirac/Weyl semi-metals** / MOON Eun-Gook<sup>\*1</sup> (<sup>1</sup>Physics, KAIST)

F6,03\* [16:48 - 17:00]

**붕소, 탄소, 질소의 원자로 구성된 sp<sup>2</sup> 구조의 이차원 반도체 물질 성장 및 응용** / KIM Hee Su<sup>1,2</sup>, SEO Tae Hoon<sup>2</sup>, YEO Dong Kyu<sup>1,2</sup>, SUH Eun-Kyung<sup>1</sup>, KIM Myung Jong<sup>\*2</sup> (<sup>1</sup>전북대학교, 반도체 화학공학부, <sup>2</sup>한국과학기술연구원, 양자응용복합소재연구센터)

F6,04\* [17:00 - 17:12]

**UV oxidation induced layer control of phosphorene and improvement of electrical property** / 이종영<sup>1</sup>, 이관형<sup>1</sup>, 김수현<sup>2</sup>, 김지현<sup>2</sup>, 이철호<sup>3</sup> (<sup>1</sup>연세대학교, 신소재공학과, <sup>2</sup>고려대학교, 화학생명공학과, <sup>3</sup>고려대학교, KU-KIST 융합대학원)

F6,05\* [17:12 - 17:24]

**Synthesis and optical properties of Er<sup>3+</sup>/Yb<sup>3+</sup>-codoped sodium yttrium fluoride nanocrystals** / DU Peng<sup>1</sup>, 유재수<sup>\*1</sup> (<sup>1</sup>경희대학교, 전자공학과)

F6,06 [17:24 - 17:36]

**Optical properties of CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> crystal grown using inverse temperature crystallization** / JO Hyunjun<sup>1</sup>, SO Mogeun<sup>1</sup>, PARK Daeyoung<sup>2</sup>, JEONG Munseok<sup>2</sup>, KIM Jongsu<sup>\*1</sup> (<sup>1</sup>Physics, Yeungnam University, <sup>2</sup>Energy Science, Sungkyunkwan University)

F6,07\* [17:36 - 17:48]

**Optical absorption and anomalous photoconductivity in Methylammonium lead halide single crystals** / 변혜령<sup>1</sup>, 박대영<sup>1</sup>, 정문석<sup>1</sup> (<sup>1</sup>성균관대학교, 에너지과학과)



**[F7-co] Focus: Synchrotron and x-ray free electron laser studies of condensed matter**

2017. 10. 26 Thursday 16:00 – 18:00

Room : 201

좌장 : 송 창 응 포항공대

Chair : SONG Changyong (POSTECH)

**F7,01** [16:00 - 16:24]

**Investigation of femtosecond XFEL interaction with matter using x-ray spectroscopic techniques** / CHO Byoung-ick<sup>\*1</sup> (<sup>1</sup>Physics and Photon science, GIST)

**F7,02** [16:24 - 16:48]

**Structural analysis using focused X-ray beam – X-ray microdiffraction** / CHUNG Jin-Seok<sup>\*1</sup> (<sup>1</sup>Dept. of Physics, Soongsil University)

**F7,03** [16:48 - 17:12]

**Band gap control of MoS<sub>2</sub> by using K<sub>+</sub> ions** / CHUNG Jinwook<sup>\*1,2</sup>, KIM Jingul<sup>1</sup>, LEE Sang-Hoon<sup>1</sup>, LEE Paengro<sup>1</sup>, RYU Mintae<sup>1</sup>, PARK Heemin<sup>1</sup>, JHI Seung-Hoon<sup>1</sup>, NOH Do Young<sup>2</sup> (<sup>1</sup>Department of Physics, Pohang University of Science and Technology, <sup>2</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology)

**F7,04** [17:12 - 17:36]

**Electron-electron interaction in graphene studied using a synchrotron source** / HWANG Choongyu<sup>\*1</sup> (<sup>1</sup>Physics, Pusan National University)

**F7,05** [17:36 - 17:48]

**Upgrade of the coherent x-ray scattering beamline (9C) at PLS-II** / 이수용<sup>\*1</sup> (<sup>1</sup>Beamline division, Pohang Accelerator Laboratory)

**F7,06\*** [17:48 - 18:00]

**Measurement on spatial coherence in hard x-ray free electron laser apart from the intensity noise and its dependance on the focusing process.** / CHO Dohyung<sup>1</sup>, YANG Jiseok<sup>1</sup>, NAM Daewoong<sup>2</sup>, KIM Sangsoo<sup>2</sup>, SONG Changyong<sup>\*1</sup> (<sup>1</sup>Dept. of Physics, Pohang University of Science and Technology, <sup>2</sup>XFEL Experiment Instrumentation Team, Pohang Accelerator Laboratory)

**[F8-co] Focus: Orbital polarization & Rashba spin-momentum coupling II**

2017. 10. 26 Thursday 16:00 – 17:36

Room : 202

좌장 : 박 철 환 서울대

Chair : PARK Cheol Hwan (Seoul National University)

**F8,01** [16:00 - 16:28]

**Giant Rashba-type spin splitting without an electric field** / HONG Jisook<sup>1</sup>, RHIM Jun-Won<sup>2</sup>, SONG Inkyung<sup>3</sup>, KIM Changyoung<sup>3,4</sup>, PARK Seung Ryong<sup>5</sup>, SHIM Ji Hoon<sup>\*1,6</sup> (<sup>1</sup>Department of Chemistry, Pohang University of Science and Technology, <sup>2</sup>Physics of Complex Systems, Max-Planck Institute, <sup>3</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>4</sup>Department of Physics, Seoul National University, <sup>5</sup>Department of Physics, Incheon National University, <sup>6</sup>Department of Physics and Division of Advanced Nuclear Engineering, Pohang University of Science and Technology)

**F8,02** [16:28 - 16:56]

**Theoretical studies of Rashba effect on a two-dimensional topological insulator and monolayer of 5d transition metal oxides 2DEG.** / LEE Minseong<sup>1</sup>, MOHAMMAD Noor-A-Alam<sup>1</sup>, LEE Hyun-Jae<sup>1</sup>, CHUNG Suk Bum<sup>2,3</sup>, LEE Jun Hee<sup>\*1</sup> (<sup>1</sup>Department of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, <sup>2</sup>Department of Physics and Astronomy, Seoul National University, <sup>3</sup>Center for Correlated Electron Systems, Institute for Basic Science)

**F8,03** [16:56 - 17:24]

**Orbital angular momentum analysis for giant spin splitting in solids and nanostructures** / OH Sehoon<sup>1</sup>, CHOI Hyoung Joon<sup>\*1</sup> (<sup>1</sup>Department of Physics, Yonsei University)

**F8,04** [17:24 - 17:36]

**Spin/valley Hall effect from broken mirror symmetry in monolayer MoS<sub>2</sub>** / 김경한<sup>1</sup>, 이현우<sup>\*1</sup> (<sup>1</sup>포항공과대학교, 물리학과)

**[E] [F9-co] Pioneer: Pseudo-gaps in high T<sub>c</sub> superconductor II**

2017. 10. 26 Thursday 16:00 – 17:36

Room : 203

좌장 : 김 용 관 한국과학기술원

Chair : KIM Yeong kwan (KAIST)

**F9,01** [16:00 - 16:24]

**Pseudogaps and symmetry-broken electronic states in iron-pnictide superconductors** / ISHIZAKA Kyoko<sup>\*1,2</sup> (<sup>1</sup>Quantum-Phase Electronics Center & Department of Applied Physics, The University of Tokyo, <sup>2</sup>RIKEN Center for Emergent Matter Science (CEMS))

**F9,02** [16:24 - 16:48]

**Frustration-driven C4 symmetric orders in a hetero-structured iron-based superconductor** / OK Jong Mok<sup>1,2</sup>, BAEK S.-H.<sup>3</sup>, HOCH C.<sup>4</sup>, KREMER R. K.<sup>4</sup>, PARK S. Y.<sup>5</sup>, JI Sungdae<sup>1,5</sup>, Buchner B.<sup>3</sup>, PARK J.-H.<sup>1,5,6</sup>, HYUN S. I.<sup>7</sup>, SHIM J. H.<sup>7</sup>, BANG Yunkyu<sup>8</sup>, MOON E. G.<sup>9</sup>, MAZIN I. I.<sup>10</sup>, KIM Jun Sung<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Pohang University of Science and Technology, <sup>2</sup>Center for Artificial Low Dimensional Electronic Systems, Institute for Basic Science,

<sup>3</sup>Department of Physics, IFW Dresden, <sup>4</sup>Department of Physics, Max-Planck-Institut für Festkörperforschung, <sup>5</sup>Max Planck POSTECH Center for Complex Phase Materials, Pohang University of Science and Technology, <sup>6</sup>Division of Advanced Materials Science, Pohang University of Science and Technology, <sup>7</sup>Department of Chemistry, Pohang University of Science and Technology, <sup>8</sup>Department of Physics, Chonnam National University, <sup>9</sup>Department of Physics, Korea Advanced Institute of Science and Technology, <sup>10</sup>Department of Physics, Naval Research Laboratory)

**F9,03** [16:48 - 17:12]

**Band dependent pseudogap in iron-based superconductor** / KIM Sunghun\*<sup>1</sup> (<sup>1</sup>Department of Physics, KAIST)

**F9,04** [17:12 - 17:36]

**Distinctive electronic phase diagram of electron-doped FeSe studied via in-situ surface** / YE Z. R.<sup>1</sup>, CHAO F.<sup>1</sup>, NING H. L.<sup>1</sup>, JIA T.<sup>1</sup>, HASHIMOTO M.<sup>1</sup>, LU D. H.<sup>1</sup>, SHEN Z.-X.<sup>1</sup>, ZHANG Yan\*<sup>1</sup> (<sup>1</sup>International Center for Quantum Materials, Peking University)

**[F10-op] Focus Session : 2D Material photonics II**

2017. 10. 26 Thursday 16:00 – 17:45

Room : 204

좌장 : 최 현 용 연세대

Chair : CHOI Hyun Yong (Yonsei University)

**F10,01** [16:00 - 16:35]

**Mid-infrared tunable plasmonics in graphene** / 장민석\*<sup>1</sup> (<sup>1</sup>School of Electrical Engineering, Korea Advanced Institute of Science and Technology)

**F10,02** [16:35 - 17:10]

**Ultrafast optical studies of valley states in 2D transition metal dichalcogenides** / KIM Jonghwan \*<sup>1</sup> (<sup>1</sup>Department of Materials Science and Engineering, POSTECH)

**F10,03** [17:10 - 17:45]

**Photon and Energy Conversion through Atomically Thin Semiconductor Heterojunctions** / LEE Chul-Ho\*<sup>1</sup> (<sup>1</sup>KU-KIST Graduate School of Converging Science and Technology, Korea University)

**[F11-pl] Focus: Recent advances in accelerator technology: superconducting technology and PAL-XFEL II**

2017. 10. 26 Thursday 16:00 – 17:00

Room : 205

좌장 : 전 동 오 IBS 중이온사업단

Chair : JEON Dong-O (IBS)

**F11,01** [16:00 - 16:30]

**Realization of ultra-stable Hard X-ray Free Electron Laser** / 강흥식\*<sup>1</sup> (<sup>1</sup>Accelerator Division, Pohang Accelerator Laboratory)

**F11,02** [16:30 - 17:00]

**New Science Opportunities at the PAL-XFEL Facility** / KOO Tae-Yeong\*<sup>1</sup> (<sup>1</sup>XFEL Beamline Division, Pohang Accelerator Laboratory)

**[F12-ap] Focus: Nanomaterials for energy applications**

2017. 10. 26 Thursday 16:00 – 17:24

Room : 206

좌장 : 박 지 용 아주대

Chair : PARK Ji-Yong (Ajou University)

**F12,01** [16:00 - 16:24]

**Flexible Capacitive Energy Storage Devices Based on Graphene Electrodes** / PARK Ho Seok\*<sup>1</sup> (<sup>1</sup>School of Chemical Engineering, Sungkyunkwan University (SKKU))

**F12,02** [16:24 - 16:48]

**Vertical semiconductor crystals and graphene hybrid optoelectronic devices** / PARK Won Il\*<sup>1</sup> (<sup>1</sup>Division of Material Science & Engineering, Hanyang University)

**F12,03** [16:48 - 17:00]

**Novel multi-dimensional nanocarbons hybridized with silicon oxides and their application for high performance electrochemical capacitors** / SONG Seunghyun<sup>1</sup>, OH Jaejun<sup>2</sup>, PARK Jisun<sup>2</sup>, SONG Junho<sup>2</sup>, BAE Joonho\*<sup>1</sup>, LEE Churlseung<sup>2</sup> (<sup>1</sup>Department of Nanophysics, Gachon University, <sup>2</sup>Energy Nano Materials Research Center, Korea Electronics Technology Institute (KETI))

**F12,04** [17:00 - 17:12]

**Aligned carbon nanotube sheets with polymer dispersed liquid crystal for photo-electro-thermal actuator** / TRUONG Thuy Kieu<sup>1,2</sup>, SUH Dongseok\*<sup>1,2</sup> (<sup>1</sup>Center for Intergrated Nanostructure Physics, Institute for Basic Science, <sup>2</sup>Department of Energy Science, Sungkyunkwan University)

**F12,05\*** [17:12 - 17:24]

**Interdigital electrode based triboelectric nanogenerator for effective energy harvesting from water** / KIM Hyunsoo<sup>1</sup>, YUN Byungkil<sup>1</sup>, KO Youngjoon<sup>1</sup>, MURILLO Gonzalo<sup>2</sup>, JUNG Jonghoon\*<sup>1</sup> (<sup>1</sup>Department of Physics, Inha University, <sup>2</sup>Department of Nano and Microsystems, IMB-CNM)

**[F13-co] Condensed-matter computational physics II**

2017. 10. 26 Thursday 16:00 – 17:36

Room : 300A

좌장 : 강 준 구 대구경북과학기술원

Chair : KANG Joongoo (DGIST)

**F13.01** [16:00 - 16:12]

**Catalytic effect of Ag<sub>2</sub>Se for decomposition of water: a first-principles study** / CHAE Jinwoong<sup>1</sup>, KIM Gunn<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Sejong University)

**F13.02** [16:12 - 16:24]

**First-principles study of co-doping effect to enhance photo-catalytic activity in Fe<sub>2</sub>O<sub>3</sub> hematite** / 서지희<sup>1</sup>, 윤기용<sup>1</sup>, 이호식<sup>2</sup>, 이준희<sup>1</sup>, 장지현<sup>1</sup> (<sup>1</sup>Department of Energy and Chemical Engineering, UNIST, <sup>2</sup>Department of Mechanical and Nuclear Engineering, UNIST)

**F13.03\*** [16:24 - 16:36]

**Prediction of a new superconducting silicon allotrope** / SUNG Ha-Jun<sup>1</sup>, HAN Woo Hyun<sup>1</sup>, LEE In-Ho<sup>2</sup>, CHANG Kee Joo<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology, <sup>2</sup>Material Genome Initiative Center, Korea Research Institute of Standards and Science)

**F13.04\*** [16:36 - 16:48]

**Topological Crystalline Insulator and High Thermopower in Perovskite ThTaN<sub>3</sub>** / JUNG Myung-Chul<sup>1</sup>, LEE Kwan-Woo<sup>\*1,2</sup> (<sup>1</sup>Department of Applied Physics, Graduate School, Korea University, Sejong, <sup>2</sup>Division of Display and Semiconductor Physics, Korea University, Sejong)

**F13.05\*** [16:48 - 17:00]

**A new phosphorus allotrope discovered by ab initio materials design** / 한우현<sup>1</sup>, 김성현<sup>2</sup>, 이인호<sup>3</sup>, 장기주<sup>1</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology, <sup>2</sup>Department of Materials, Imperial College London, <sup>3</sup>Center for Materials Genome, Korea Research Institute of Standards and Science)

**F13.06\*** [17:00 - 17:12]

**A comparative study of DFT+U functionals: Double counting, spin density, and Hund interaction** / 이시현<sup>1</sup>, 한명준<sup>\*1</sup> (<sup>1</sup>한국과학기술원, 물리학과)

**F13.07\*** [17:12 - 17:24]

**First-principles modeling of electron tunneling through ferroelectric tunnel junction** / 변진호<sup>1</sup>, 민태원<sup>1</sup>, 이재광<sup>1</sup> (<sup>1</sup>부산대학교, 물리학과)

**F13.08\*** [17:24 - 17:36]

**Phonon-driven spin-Floquet magneto-valleytronics** / SHIN Dongbin<sup>1</sup>, HUBENER Hannes<sup>2</sup>, GIOVANNINI Umberto<sup>2</sup>, JIN Hosub<sup>1</sup>, RUBIO Angel<sup>2</sup>, PARK Noejung<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Ulsan National Institute of Science and Technology, <sup>2</sup>Structure and Dynamics of Matter, Max Planck Institute)

**[F14-or] 정부 과학 정책의 변화 방향**

**New direction in national science policy**

2017.10.26 Thursday 16:00 – 17:48

Room : 300B

좌장 : 김 윤 기 광운대

Chair : KIM Yunki (Kwangwoon University)

**F14.01** [16:05 – 16:35]

**정부지원 기초연구사업 현황 및 2018년 사업 방향** / 이용훈 단장 (연구재단 자연과학단)

**F14.02** [16:50 – 17:20]

**문재인 정부의 과학기술 투자 방향 고찰** / 이장재 박사 (KISTEP)

**[F15-or] 입자물리분과-APCTP Benjamin W. Lee 특별 세션**

**Honoring 40th Anniversary of the death of Prof.**

**Benjamin W. Lee**

2017.10.26 Thursday 15:00 – 18:00

Room : 300C

좌장 : 오 선 근 건국대

Chair: OH Sun Kun (Konkuk University)

**F15.01** [15:00 ~ 15:36]

**The early days of the Standard Model - remembering Benjamin Lee** / 'T HOOFT Gerard (Utrecht Univ.)

**F15.02** [15:36 ~ 16:12]

**A hard working genius** / FUJIKAWA Kazuo (The University of Tokyo)

**F15.03** [16:12 ~ 16:36]

**내가 아는 이휘소 박사** / 김제완 (서울대 명예교수)

**F15.04** [16:36 ~ 17:00]

**Ben Lee in 1977** / 김진익 (서울대 명예교수)

**F15.05** [17:00 ~ 17:24]

**The role of the Higgs-boson mass** / 최성열 (전북대)

F15.06 [17:24 ~ 17:48]

**Rare K and B decays as crucial keys to understand heavy particles**  
/ 권영준 (연세대)

## SESSION G

2017 October 27(Fri) 9:00–10:48

### **E [G1-pa] Pioneer: Sterile neutrino searches and the JSNS2 experiment I**

2017. 10. 27 Friday 09:00 – 10:48

Room : 101

좌장 : Carsten Rott 성균관대

Chair : Carsten Rott (Sungkyunkwan University)

G1.01 [09:00 - 09:36]

**Neutrino phenomenology** / HUBER Patrick<sup>\*1</sup> (<sup>1</sup>Virgina Tech, USA)

G1.02 [09:36 - 10:12]

**Synthesizing Data: Sterile Neutrinos** / LI Yu-Feng<sup>\*1</sup> (<sup>1</sup>Institute of High Energy Physics, Chinese Academy of Sciences)

G1.03 [10:12 - 10:48]

**Global Experimental program for Sterile Neutrino Searches** / SPITZ Joshua<sup>\*1</sup> (<sup>1</sup>University of Michigan, USA)

### **[G2-pa] Accelerator-based particle physics experiments IV/ Particle physics theory**

2017. 10. 27 Friday 09:00 – 10:36

Room : 102

좌장 : 문 창 성 경북대

Chair : MOON Chang-Seong (Kyungpook National University)

G2.01\* [09:00 - 09:12]

**Search for a high-mass resonance decaying into a dilepton final state using pp collisions at  $\sqrt{s} = 13$  TeV** / 오민석<sup>1</sup>, 유휘동<sup>\*1</sup> (<sup>1</sup>서울대학교, 물리천문학부 물리학과)

G2.02 [09:12 - 09:24]

**Search for supersymmetry in pp collisions at  $\sqrt{s} = 13$  TeV in final states with boosted Wbosons and b jets using razor variables** / HUH Changgi<sup>\*1</sup>, LEE Sehwook<sup>1</sup>, SEKMEN Sezen<sup>1</sup>, YE Ryonghae<sup>1</sup> (<sup>1</sup>Department of Physics, Kyungpook National University)

G2.03\* [09:24 - 09:36]

**Search for CP violating anomalous top quark coupling in pp collisions with the CMS detector at 13 TeV** / HA Seungkyu<sup>1</sup>, CHOI Suyong<sup>\*1</sup>, LEE Sehwook<sup>2</sup> (<sup>1</sup>Department of Physics, Korea University, <sup>2</sup>Department of Physics, Kyungpook National University)

G2.04\* [09:36 - 09:48]

**CMS muon reconstruction and identification performance of 2017 data** / 이경필<sup>1</sup>, 유취동<sup>1</sup> (<sup>1</sup>서울대학교, 물리천문학부)

G2.05 [09:48 - 10:00]

**Search for Heavy Stable Charged Particles with CMS RPC system in the upgrade scenario** / 고정환<sup>1</sup>, 김태정<sup>1</sup>, 정수민<sup>1</sup> (<sup>1</sup>한양대학교, 물리학과)

G2.06 [10:00 - 10:12]

**Spectral Decomposition of Missing Transverse Energy at Hadron Colliders** / 정태현<sup>1</sup>, 배규정<sup>1</sup>, 박명훈<sup>2</sup> (<sup>1</sup>Center for Theoretical Physics of the Universe, Institute for Basic Science, <sup>2</sup>Physics, Seoul National University of Science and Technology)

G2.07 [10:12 - 10:24]

**The many signatures of composite Higgs models** / FLACKE ThomasDieter<sup>1</sup> (<sup>1</sup>CTPU, IBS)

G2.08 [10:24 - 10:36]

**Study of neutral Higgs boson pair production in the  $H(\rightarrow b\bar{b})H(\rightarrow \gamma\gamma)$  channel at the HL-LHC** / CHANG Jung<sup>1,2</sup>, CHEUNG Kingman<sup>2,3,4</sup>, LEE Jae Sik<sup>1,2,5</sup>, LU Chih-Ting<sup>4</sup>, PARK Jubin<sup>1,2,5</sup> (<sup>1</sup>Department of Physics, Chonnam National University, <sup>2</sup>Physics Division, National Center for Theoretical Sciences, <sup>3</sup>Division of Quantum Phases and Devices, Konkuk University, <sup>4</sup>Department of Physics, National Tsing Hua University, <sup>5</sup>Institute for Universe and Elementary Particles, Chonnam National University)

**[G3-as] Astrophysics experiments/observations I**

2017. 10. 27 Friday 09:00 – 10:36

Room : 103

좌장 : 송 용 선 한국천문연구원

Chair : SONG Yong Seon (KASI)

G3.01 [09:00 - 09:12]

**Operation the ISS-CREAM experiment and Performance of the Silicon Charge Detector in Space** / Lee Jik<sup>1,2</sup>, Park Il Hung<sup>1,2</sup>, JEONG Soomin<sup>1,2</sup>, TAKEISHI Ryuji<sup>1</sup>, Hong GiHan<sup>1</sup>, CHOI Gwangho<sup>1</sup>, KIM Sangwoo<sup>1</sup> (<sup>1</sup>Physics, Sungkyunkwan University, <sup>2</sup>Institute of Science and Technology in Space, Sungkyunkwan University)

G3.02\* [09:12 - 09:24]

**Status of Top and Bottom Counting Detectors of ISS-CREAM Experiment at The International Space Station** / KANG Sinchul<sup>1</sup>, KIM Hongjoo<sup>1</sup>, PARK H.<sup>1</sup>, JEON H.B.<sup>1</sup>, HYUN H.J.<sup>2</sup>, HWANG Y.S.<sup>3</sup>, PARK J.M.<sup>4</sup> (<sup>1</sup>Department of Physics, Kyungpook National University, <sup>2</sup>4th generation synchrotron radiation accelerator institute, Pohang Accelerator Laboratory, <sup>3</sup>Korea

Multi-purpose Accelerator Complex, Korea Atomic Energy Research Institute, <sup>4</sup>Advanced Radiation Technology Institute, Korea Energy Research Institute)

G3.03 [09:24 - 09:36]

**Korean contribution to Telescope Array x4 experiment for understanding of UHECR** / 정수민<sup>1</sup>, 박일홍<sup>1</sup>, 정효민<sup>1</sup>, 이광호<sup>1</sup>, 천병구<sup>2</sup>, 김항배<sup>2</sup>, Sagawa Hiroyuki<sup>3</sup> (<sup>1</sup>성균관대학교, 물리학과, <sup>2</sup>한양대학교, 물리학과, <sup>3</sup>도쿄대학교, 우주선연구소)

G3.04\* [09:36 - 09:48]

**Solar Atmospheric Neutrino Searches with IceCube Neutrino Telescope** / IN Seongjin<sup>1</sup>, ROTT Carsten<sup>1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan university)

G3.05\* [09:48 - 10:00]

**Heavy decaying dark matter search with the IceCube Neutrino Telescope** / DUJMOVIC Hrvoje<sup>1</sup> (<sup>1</sup>Department of Physics, SKKU)

G3.06 [10:00 - 10:12]

**Platform Nodal Analysis of Superconducting Low-frequency Gravitational-wave Telescope** / KANG Gungwon<sup>1</sup>, AHN Sang-Hyeon<sup>2</sup>, BAE Yeong-Bok<sup>2</sup>, KIM Chunglee<sup>2</sup>, KIM Whansun<sup>3</sup>, OH John J.<sup>3</sup>, OH Sang Hoon<sup>3</sup>, PARK Chan<sup>1</sup>, SON Edwin J.<sup>3</sup>, JEONG Minjoong<sup>1</sup>, NORTON Ronald S.<sup>4</sup>, PAIK Ho Jung<sup>4</sup> (<sup>1</sup>Division of Supercomputing, Korea Institute of Science and Technology Information, <sup>2</sup>Center for Theoretical Astronomy, Korea Astronomy & Space Science Institute, <sup>3</sup>Division of Industrial Mathematics, National Institute for Mathematical Sciences, <sup>4</sup>Department of Physics, University of Maryland)

G3.07 [10:12 - 10:24]

**Cosmology with Deep Lens Survey using galaxy clustering and galaxy-mass correlation** / 윤미진<sup>1</sup>, 지영국<sup>1</sup>, TYSON Tony<sup>2</sup> (<sup>1</sup>연세대학교, 천문우주학과, <sup>2</sup>Department of Physics, University of California)

G3.08 [10:24 - 10:36]

**Properties and Large-scale Environment of High-redshift Galaxy Clusters** / 이성국<sup>1</sup>, 임명신<sup>1</sup>, 현민희<sup>1</sup>, 박보미<sup>2</sup>, 김재우<sup>3</sup>, 김도형<sup>1</sup>, 김용정<sup>1</sup> (<sup>1</sup>서울대학교, 물리천문학부, <sup>2</sup>경희대학교, 우주과학과, <sup>3</sup>천문연구원, 은하진화그룹)

**[G4-nu] Relativistic heavy ion collisions**

2017. 10. 27 Friday 9:00 – 10:48

Room : 104

좌장 : 김 은 주 전북대

Chair : KIM Eun Joo (Chonbuk National University)

G4.01\* [9:00 - 9:12]

**Status of the measurement of electrons from beauty-hadron**

**decays in pp collision at 13 TeV in ALICE / KWON Jiyeon<sup>\*1</sup>, KWEON Minjung<sup>1</sup>** (<sup>1</sup>Department of Physics, Inha University)

G4.02\* [9:12 - 9:24]

**Transverse single spin asymmetry measurement of inclusive very forward neutron production in p+p collisions at  $\sqrt{s}=510\text{GeV}$  / PARK Junsang<sup>1</sup>, TANIDA Kiyoshi<sup>\*2</sup>** (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Department of Physics and Astronomy, Seoul National University)

G4.03 [9:24 - 9:36]

**Elliptic flows of charmonia in heavy ion collisions / CHO Sungtae<sup>\*1</sup>** (<sup>1</sup>Division of Science Education, Kangwon National University)

G4.04\* [9:36 - 9:48]

**Improved measurement of very forward transverse single spin asymmetry for  $\pi^0$  production in polarized p + p collisions at  $\sqrt{s} = 510 \text{ GeV}$  / KIM Minho<sup>1,2</sup>, HONG Byungsik<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Korea University, <sup>2</sup>Radiation Laboratory, RIKEN)

G4.05\* [9:48 - 10:00]

**Di-jet photoproduction in ultra-peripheral collisions in the CMS experiment / 김범곤<sup>\*</sup>, 김용선<sup>1</sup>, 홍병식<sup>1</sup>, TAKAKI Daniel Tapia<sup>2</sup>** (<sup>1</sup>고려대학교, 물리학과, <sup>2</sup>University of Kansas, Department of Physics)

G4.06\* [10:00 - 10:12]

**Mass Chip Test(MCT) and Outer Barrel Hybrid Integrated Circuit(OB HIC) Assembly Project for ALICE-ITS Upgrade / 방혜선<sup>1</sup>, 권민재<sup>2</sup>, 권지연<sup>1</sup>, 김민정<sup>1</sup>, 박종한<sup>1</sup>, 박소영<sup>2</sup>, 엄종식<sup>2</sup>, 이상현<sup>2</sup>, 임봉휘<sup>2</sup>, 조소연<sup>1</sup>, 권민정<sup>1</sup>, 유인권<sup>2</sup>, 윤진희<sup>1</sup>** (<sup>1</sup>인하대학교, 물리학과, <sup>2</sup>부산대학교, 물리학과)

G4.07\* [10:12 - 10:24]

**Plans for the elliptic flow of electrons from beauty hadron decays in PbPb collisions at  $\sqrt{s_{NN}}=5.02\text{TeV}$  with ALICE / 박종한<sup>1</sup>, 권민정<sup>\*1</sup>** (<sup>1</sup>인하대학교, 물리학과)

G4.08\* [10:24 - 10:36]

**Suppression of excited  $Y$  states relative to the ground state in PbPb collisions at  $\sqrt{s_{NN}} = 5.02 \text{ TeV}$  / OH Geonhee<sup>\*1</sup>, MOON Dongho<sup>1</sup>** (<sup>1</sup>Department of Physics, Chonnam National University)

G4.09 [10:36 - 10:48]

**Constructing probability density function of net-proton multiplicity distributions using Pearson curve method / BEHERA Nirbhay Kumar<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Inha University)

[G5] No Session

[G6-se] compound semiconductors

2017. 10. 27 Friday 9:00 – 10:24

Room : 106

좌장 : 김 종 수 영남대학교

Chair : KIM Jong Su (Yeungnam University)

G6.01\* [9:00 - 9:12]

**단광자원 효율 증대를 위한 위치 제어 가능한 단일 피라미드 양자점 마이크로 공정 연구 / 박도연<sup>\*1</sup>** (<sup>1</sup>한국과학기술원(KAIST), 물리학과)

G6.02 [9:12 - 9:24]

**Synthesis and characterization of Na<sub>3</sub>GdV<sub>2</sub>O<sub>8</sub> phosphor materials / HUSSAIN Sk. Khaja<sup>1</sup>, YU Jae Su<sup>\*1</sup>** (<sup>1</sup>Electronic Engineering, Kyung Hee University)

G6.03 [9:24 - 9:36]

**Periodic metal nano-structure on GaAs substrate calculated by finite-difference time-domain method / OH Gyu Jin<sup>1</sup>, KIM Eun Kyu<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Hanyang University)

G6.04\* [9:36 - 9:48]

**The effects on defect generation during thermal and electrical stress in InAs MOS capacitor / BAIK Min<sup>1</sup>, KANG Hang-Kyu<sup>1,3</sup>, KANG Yu-Seon<sup>1</sup>, JEONG Kwang-Sik<sup>1</sup>, LEE Changmin<sup>2</sup>, KIM Hyoungsub<sup>2</sup>, SONG Jin-Dong<sup>3</sup>, CHO Mann-Ho<sup>\*1</sup>** (<sup>1</sup>Department of Physics, Yonsei University, <sup>2</sup>School of Advanced Materials Science and Engineering, Sungkyunkwan University, <sup>3</sup>Center of Opto-electronic Materials, Korea Institute of Science and Technology)

G6.05\* [9:48 - 10:00]

**Anisotropic thermoelectric properties of n-type SnSe<sub>2</sub> single crystal / PHAM Anh Tuan<sup>1</sup>, VU Thi Hoa<sup>1</sup>, CHO Sunglae<sup>\*1</sup>** (<sup>1</sup>Department of Physics, University of Ulsan)

G6.06 [10:00 - 10:12]

**First-principles study of nonisovalent Si<sub>2</sub>AlP and Si<sub>2</sub>ZnS alloys: Covalent, ionic, and mixed phases / KANG Joongoo<sup>\*1</sup>, WEI Su-Huai<sup>2</sup>** (<sup>1</sup>Department of Emerging Materials Science, DGIST, <sup>2</sup>Materials and Energy Division, Beijing Computational Science Research Center)

G6.07\* [10:12 - 10:24]

**Magnetic field and polarization independence of time-resolved photoluminescence in ZnSe/CdS (core/shell) type-II quantum**



**dots** / 이우진<sup>1</sup>, 김광석<sup>1,2</sup> (<sup>1</sup>부산대학교, 인지메카트로닉스공학과, <sup>2</sup>부산대학교, 광메카트로닉스공학과, 물리교육과)

**[G7-co] Focus: flexoelectricity**

2017. 10. 27 Friday 9:00 – 10:48

Room : 201

좌장 : 이윤상 송실대

Chair : LEE Yun Sang (Soongsil University)

**G7.01** [9:00 - 9:24]

**Controlled manipulation of oxygen vacancies using nanoscale flexoelectricity** / DAS Saikat<sup>1</sup>, WANG Bo<sup>2</sup>, CAO Ye<sup>3,4</sup>, CHO Myungrae<sup>1</sup>, SHIN Yeongjae<sup>1</sup>, KIM Minu<sup>1</sup>, WANG Lingfei<sup>1</sup>, YANG Sangmo<sup>3,4</sup>, KALININ Sergei V.<sup>3,4</sup>, CHEN Long-Qing<sup>2</sup>, NOH Taewon<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, Center for Correlated Electron Systems, Institute for Basic Science (IBS), <sup>2</sup>Department of Materials Science and Engineering, The Pennsylvania State University, <sup>3</sup>Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, <sup>4</sup>Institute for Functional Imaging of Materials, Oak Ridge National Laboratory)

**G7.02** [9:24 - 9:48]

**Nonlinear flexoelectricity in non-centrosymmetric systems** / 주강현<sup>1</sup>, 양찬호<sup>2</sup> (<sup>1</sup>KAIST, 자연과학연구소, <sup>2</sup>KAIST, 물리학과)

**G7.03** [9:48 - 10:12]

**Enhanced Energy Harvesting via Flexoelectric Effect in Ferroelectric Nanostructures** / HAN Jinkyu<sup>1,2</sup>, LIM Jongsun<sup>1</sup>, AN Ki-Seok<sup>1</sup>, BU Sangdon<sup>\*2</sup> (<sup>1</sup>Thin Film Materials Research Center, Korea Research Institute of Chemical Technology, <sup>2</sup>Department of Physics, Chonbuk National University)

**G7.04\*** [10:12 - 10:24]

**Investigation of temperature-induced ferroelectric domain evolution in a strained BiFeO<sub>3</sub> thin film via second harmonic generation** / ROH Chang Jae<sup>1</sup>, LEE Jin Hong<sup>2</sup>, YANG Chan Ho<sup>2</sup>, LEE Jong Seok<sup>\*1</sup> (<sup>1</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology (GIST), <sup>2</sup>Department of Physics, Korea Advanced Institute of Science and Technology (KAIST))

**G7.05\*** [10:24 - 10:36]

**Domain dynamics in ferroelectric vortices** / JIN Hye-Jin<sup>1</sup>, JO William<sup>\*1</sup>, SHIN Young Han<sup>2</sup>, ROH Chang Jae<sup>3</sup>, LEE Jong Seok<sup>3</sup> (<sup>1</sup>Department of Physics, Ewha Womans University, <sup>2</sup>Department of Physics, University of Ulsan, <sup>3</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology)

**G7.06\*** [10:36 - 10:48]

**Electric-field induced modulation of oxygen vacancy in Ca doped**

**bismuth ferrite** / LIM JiSoo<sup>1</sup>, LEE jinhong<sup>1</sup>, YANG Chanhoo<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, KAIST, <sup>2</sup>Institute for the NanoCentury, KAIST)

**[G8-co] Magnetism**

2017. 10. 27 Friday 9:00 – 10:48

Room : 202

좌장 : 정명화 서강대학교

Chair : JUNG Myung Hwa (Sogang University)

**G8.01** [9:00 - 9:12]

**Magnetism in Doped Transition Metal Dichalcogenides** / ODKHUU Dorj<sup>\*1</sup>, TAIVANSAIKHAN Purev<sup>1</sup>, TSEVELMAA Tumurbaatar<sup>2</sup>, RHIM S. H.<sup>2</sup>, HONG Soon Cheol<sup>2</sup>, TSOGBADRAKH Namsrai<sup>3</sup>, SANGAA Deleg<sup>4</sup> (<sup>1</sup>Department of Physics, Incheon National University, <sup>2</sup>Department of Physics and EHSRC, University of Ulsan, <sup>3</sup>Department of Physics, National University of Mongolia, <sup>4</sup>Institute of Physics and Technology, Mongolian Academy of Sciences)

**G8.02** [9:12 - 9:24]

**Room-temperature ferromagnetism from array of asymmetric zigzag edge nanoribbon in graphene junction** / 이호식<sup>1</sup>, 이현정<sup>2</sup>, 김성엽<sup>1</sup> (<sup>1</sup>울산과학기술원, 기계항공 및 원자력공학부, <sup>2</sup>포항공과대학교, 물리학과)

**G8.03** [9:24 - 9:36]

**3차원 위상절연체 Ce-doped Bi<sub>2</sub>Se<sub>3</sub>의 각분해 광전자 분광 연구** / 이은숙<sup>1</sup>, 성승호<sup>1</sup>, 한상욱<sup>2</sup>, 김진수<sup>3</sup>, 정명화<sup>3</sup>, 박병규<sup>4</sup>, 강정수<sup>\*1</sup> (<sup>1</sup>가톨릭대학교, 물리학과, <sup>2</sup>울산대학교, Energy Harvest-Storage Research Center, <sup>3</sup>서강대학교, 물리학과, <sup>4</sup>포항공과대학교 연구소, 방사광응용팀)

**G8.04** [9:36 - 9:48]

**Current-controlled magnetization using interfacial localizations in complex oxide heterostructure** / 서지원<sup>1</sup>, 최의영<sup>1</sup>, 박병국<sup>2</sup>, PRELLIER Wilfrid<sup>3</sup>, 박승영<sup>4</sup>, 조영훈<sup>4</sup>, 김미경<sup>1</sup>, 민병철<sup>5</sup> (<sup>1</sup>연세대학교, 물리학과, <sup>2</sup>KAIST, 신소재 공학과, <sup>3</sup>CNRS, CNRS, <sup>4</sup>한국기초과학지원연구원, 장비 개발팀, <sup>5</sup>KIST, KIST)

**G8.05** [9:48 - 10:00]

**Ga-substitution effects on spin-waves in hexagonal RMnO<sub>3</sub> (R= Y, Ho) systems** / NAM Jiyeon<sup>1</sup>, KIM Seung<sup>1</sup>, NGUYEN Hien Thi Minh<sup>1</sup>, CHEN Xiang-Bai<sup>2</sup>, LEE D.<sup>3</sup>, NOH T. W.<sup>3</sup>, SIM Hasung<sup>3</sup>, PARK Je-Geun<sup>3</sup>, YANG In-Sang<sup>\*1</sup> (<sup>1</sup>Department of Physics and Division of Nano-Sciences, Ewha Womans University, <sup>2</sup>School of Science, China, Wuhan Institute of Technology, <sup>3</sup>Center for Correlated Electron Systems, Institute for Basic Science (IBS))

**G8.06** [10:00 - 10:12]

**Growth of epitaxial FeNi thin films on Al<sub>2</sub>O<sub>3</sub> substrates** / SWAIN Mitali<sup>1</sup>, KONG Hyeonjun<sup>1</sup>, JEEN Hyoungjeen<sup>\*1</sup> (<sup>1</sup>Physics, Pusan National University)

G8.07\* [10:12 - 10:24]

**Thickness driven spin reorientation of epitaxial LaCrO<sub>3</sub> films / 박준호<sup>1,3</sup>, 김동환<sup>1,3</sup>, 고경태<sup>1,3</sup>, 송종현<sup>5</sup>, 김재영<sup>4</sup>, 이승란<sup>3</sup>, 박재훈<sup>1,2,3</sup>** (<sup>1</sup>Department of Physics, Pohang University of Science and Technology, <sup>2</sup>Division of Advanced materials Science, Pohang University of Science and Technology, <sup>3</sup>Max Planck POSTECH center for Complex Phase Materials, Pohang University of Science and Technology, <sup>4</sup>Pohang Accelerator Laboratory, Pohang University of Science and Technology, <sup>5</sup>Department of Physics, Chungnam National University)

G8.08\* [10:24 - 10:36]

**Effect of grain size on magnetoresistance of Pt/Fe<sub>3</sub>O<sub>4</sub> thin films / PHAM Thi Kim Hang<sup>2</sup>, LEE Nyun Jong<sup>2</sup>, KANG Ki Hoon<sup>3</sup>, PARK Eunsan<sup>4</sup>, MICHEL Anny<sup>5</sup>, NGUYEN Van Quang<sup>6</sup>, CHO Sunglae<sup>6</sup>, KIM Tae Hee<sup>1,2</sup>** (<sup>1</sup>Center for Quantum Nanoscience, Institute for Basic Science, Ewha Womans University, <sup>2</sup>Department of Physics, Ewha womans university, <sup>3</sup>Department of Materials Science and Engineering, Hanyang University, <sup>4</sup>KU-KIST Graduate School of Converging Science and Technology, Korea University, <sup>5</sup>Département de Physique et Mécanique des Matériaux, CNRS-Université de Poitiers-ENSMA, <sup>6</sup>Department of Physics and Energy Harvest Storage Research Center, University of Ulsan)

G8.09\* [10:36 - 10:48]

**Reinvestigation of magnetization dynamics in weakly canted antiferromagnet using terahertz magnetic pulse / KIM Tae Heon<sup>1,2</sup>, Gruenberg Peter<sup>2</sup>, Han Song Hee<sup>3</sup>, Cho Beong Ki<sup>1,2</sup>** (<sup>1</sup>Gwangju Institute of Science and Technology, School of Materials Science and Engineering, <sup>2</sup>Gwangju Institute of Science and Technology, Gruenberg Center for Magnetic Nanomaterials, <sup>3</sup>Mokpo Maritime National University, Division of Navigation Science)

**[G9-co] Strongly correlated systems I**

2017. 10. 27 Friday 9:00 – 10:48

Room : 203

좌장 : 박 두 선 성균관대

Chair : PARK Tuson (Sungkyunkwan University)

G9.01\* [9:00 - 9:12]

**Anomalous phase shift in the coherent phonon oscillation across the magnetic ordering of Ca<sub>2</sub>RuO<sub>4</sub> / LEE Min-Cheol<sup>1,2</sup>** (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>2</sup>Department of Physics and Astronomy, Seoul National University)

G9.02\* [9:12 - 9:24]

**Non-zero Berry phase and anomaly in Hall resistivity on GdB<sub>4</sub> : a new type of a magnetic semimetal with nontrivial topology / SHON Wonhyuk<sup>1,2</sup>, KANG Boyoun<sup>3</sup>, KIM Sung-Jin<sup>2</sup>, CHO Beongki<sup>3</sup>, Kim Heon-Jung<sup>4</sup>, RHYEE Jong-Soo<sup>1</sup>** (<sup>1</sup>Department of Applied Physics, KhyungHee

University, <sup>2</sup>Department of Chemistry and Nanoscience, Ewha Womans University, <sup>3</sup>School of Materials Science and Engineering, Gwanju Institute of Science and Technology, <sup>4</sup>Department of physics, Daegu University)

G9.03\* [9:24 - 9:36]

**In-situ Electronic Structure Investigation for a Possible Surface Metallic State on a Surface of a Semiconducting BaBiO<sub>3</sub> Thin Film / 오지섭<sup>1,2</sup>** (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>2</sup>Department of Physics and Astronomy, Seoul National University)

G9.04\* [9:36 - 9:48]

**Microscopic observation of highly coherent 2D metallic behavior on disordered surface of metallic delafossite PdCrO<sub>2</sub> / 정진오<sup>1</sup>, 옥종목<sup>2</sup>, 최형준<sup>3</sup>, 오세훈<sup>3</sup>, 장원준<sup>4</sup>, 이영훈<sup>1</sup>, 이성빈<sup>1</sup>, 김준성<sup>2</sup>, 이진환<sup>1</sup>** (<sup>1</sup>KAIST, 물리학과, <sup>2</sup>POSTECH, 물리학과, <sup>3</sup>연세대학교, 물리학과, <sup>4</sup>Institute for Basic Science, Center for Quantum Nano Science)

G9.05\* [9:48 - 10:00]

**Single ferroelectric transition of weak first-order in multiferroic hexagonal manganite RMnO<sub>3</sub> / SIM Hasung<sup>1,2</sup>, JEONG Jaehong<sup>1,2</sup>, CHEONG S-W<sup>3</sup>, PARK Je-Geun<sup>1,2</sup>** (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science (IBS), <sup>2</sup>Department of Physics & Astronomy, Seoul National University, <sup>3</sup>Rutgers Center for Emergent Materials and Department of Physics and Astronomy, Rutgers University)

G9.06\* [10:00 - 10:12]

**Quantified Degeneracy and Metal-insulator Transition in first-principles study / SIM Jae-Hoon<sup>1</sup>, RYEE Siheon<sup>1</sup>, LEE Hunpyo<sup>2</sup>, HAN Myung Joon<sup>1</sup>** (<sup>1</sup>Department of Physics, KAIST, <sup>2</sup>Department of general studies, Kangwon National University)

G9.07\* [10:12 - 10:24]

**Electrical detection of surface state spin polarization of candidate topological Kondo insulator Smb<sub>6</sub> / 김제현<sup>1</sup>, 장차운<sup>2</sup>, WANG Xiangfeng<sup>3</sup>, PAGLIONE Johnpierre<sup>3</sup>, 김도현<sup>1</sup>** (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Center for spintronics, Korea Institute of Science and Technology, <sup>3</sup>Center for Nanophysics and Advanced Materials, Department of Physics, University of Maryland)

G9.08\* [10:24 - 10:36]

**Giant thermal hysteresis in Verwey transition of single domain Fe<sub>3</sub>O<sub>4</sub> nanoparticles / KIM Taehun<sup>1,2</sup>, LIM Sumin<sup>3</sup>, HONG Jaeyoung<sup>4,5</sup>, KWON Soon Gu<sup>4,5</sup>, OKAMOTO Jun<sup>6</sup>, CHEN Zhi Ying<sup>7</sup>, JEONG Jaehong<sup>1,2</sup>, KANG Soonmin<sup>1,2</sup>, LEINER Jonathan C.<sup>1,2</sup>, HUANG Di Jing<sup>6,7</sup>, HYEON Taeghwan<sup>4,5</sup>, LEE Soonchil<sup>3</sup>, PARK Je-Geun<sup>1,2</sup>** (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>2</sup>Department of Physics & Astronomy, Seoul

National University, <sup>3</sup>Department of Physics, Korea Advanced Institute of Science and Technology, <sup>4</sup>Center for Nanoparticle Research, Institute for Basic Science, <sup>5</sup>School of Chemical and Biological Engineering, Seoul National University, <sup>6</sup>NSRRC, National Synchrotron Radiation Research Center, <sup>7</sup>Department of Physics, National Tsing Hua University)

G9.09 [10:36 - 10:48]

**Electron-lattice coupling in correlated materials of low electron occupancy** / 엄기태<sup>1</sup>, 이재찬<sup>\*1</sup> (<sup>1</sup>성균관대학교, 신소재공학부)

**[G10-op] Fiber light sources & Sensing**

2017. 10. 27 Friday 09:00 – 10:48

Room : 204

좌장 : 김 준 완 한국전기연구원

Chair : KIM Jun Wan (KERI)

G10.01 [09:00 - 09:24]

**저차원 물질 포화 흡수체 기반 고출력 펄스 전광섬유 레이저** / 정환성<sup>1</sup>, 박남훈<sup>2</sup>, 이상민<sup>3</sup>, 염동일<sup>2</sup> (<sup>1</sup>LIG 넥스원, 레이저 연구실, <sup>2</sup>아주대학교, 물리학과/에너지시스템학과, <sup>3</sup>한국과학기술원, 물리학과)

G10.02\* [09:24 - 09:36]

**400W 급 고출력 탠덤 펌핑 Yb 광섬유 레이저 개발** / 박종선<sup>1,2</sup>, 오예진<sup>1,2</sup>, 김지원<sup>1</sup>, 정훈<sup>2</sup> (<sup>1</sup>한양대학교, 응용물리학과, <sup>2</sup>생산기술연구원, 청정생산시스템연구소)

G10.03\* [09:36 - 09:48]

**광섬유 기반 고출력 광대역 형광 광원 개발 및 특성 평가** / 박은지<sup>1</sup>, 김지원<sup>1</sup> (<sup>1</sup>한양대학교, 응용물리학과)

G10.04\* [09:48 - 10:00]

**툴륨 광섬유 레이저 펌핑 홀륨 광섬유 레이저** / 박진수<sup>1</sup>, 김지원<sup>1</sup>, 김류경<sup>2</sup> (<sup>1</sup>한양대학교 과학기술융합대학, 응용물리학과, <sup>2</sup>성균관대학교 정보통신대학, 전자전기공학부)

G10.05\* [10:00 - 10:12]

**Brillouin fiber ring laser with narrow linewidth based on a micro knot resonator** / TRAN Tuyen Ngoc<sup>1</sup>, LEE Seung Min<sup>1</sup>, HAN Young Geun<sup>\*1</sup> (<sup>1</sup>Department of Physics, Hanyang University)

G10.06 [10:12 - 10:24]

**Effect of extinction ratio of optical signal on coherence noise in phase optical time domain reflectometer** / 이승민<sup>1</sup>, TRAN Tuyen Ngoc<sup>1</sup>, 한영근<sup>\*1</sup> (<sup>1</sup>한양대학교, 물리학과)

G10.07 [10:24 - 10:36]

**감쇄 기반 Weak value amplification을 이용한 높은 민감도를 가지는**

**광섬유 인장력 센서** / 유광욱<sup>1</sup>, 황주일<sup>1</sup>, 한영근<sup>\*1</sup> (<sup>1</sup>한양대학교, 물리학과)

G10.08\* [10:36 - 10:48]

**양자폭포레이저 및 중적외선 분광 광학계 기반 ppb급 고감도 암모니아 가스 검출 시스템 연구** Investigation on ammonia gas detection using mid-infrared spectroscopy with quantum cascade laser / 신종철<sup>1</sup>, LE Anh Duy Duong<sup>1</sup>, 한영근<sup>\*1</sup> (<sup>1</sup>한양대학교, 물리학과)

**[G11-pl] Fusion, Plasma Instruments & Applications**

2017. 10. 27 Friday 09:00 – 10:48

Room : 205

좌장 : 김 영 철 한국과학기술원

Chair : GHIM Young Chul (KAIST)

G11.01 [9:00 - 9:12]

**The Behavior of in-vessel pressure gauge in the KSTAR plasma** / 김명규<sup>1</sup>, 김광표<sup>1</sup>, 이현명<sup>1</sup> (<sup>1</sup>국가핵융합연구소, 토카막제어연구부)

G11.02\* [9:12 - 9:24]

**Rejection of stray light in Thomson scattering measurements using polarization switched multiple roundtrip scheme for the incident optical pulse** / LEE Donggeun<sup>1</sup>, PARK Junegyul<sup>1</sup>, CHO kyuman<sup>\*1</sup>, Ghim Young-chul<sup>2</sup> (<sup>1</sup>Department of Physics, Sogang University, <sup>2</sup>Department of Nuclear and Quantum Engineering, KAIST)

G11.03 [9:24 - 9:36]

**Electromagnetic enhancement of residual stress with the parity change of the global ITG mode** / 강혜련<sup>1</sup>, 김성식<sup>1</sup>, 장호건<sup>1</sup>, 김주형<sup>1</sup> (<sup>1</sup>국가핵융합연구소, 선행물리연구부)

G11.04 [9:36 - 9:48]

**A mechanism for the generation of secondary bursts after an edge localized mode crash** / 장호건<sup>1</sup>, 라그벤드라 싱<sup>1</sup>, 김성식<sup>1</sup>, 강혜련<sup>1</sup> (<sup>1</sup>국가핵융합연구소, 선행물리연구부)

G11.05 [9:48 - 10:12]

**Critical roles of perpendicular plasma transports in ohmic breakdown in a tokamak** / YOO Min-Gu<sup>1</sup>, LEE Jeongwon<sup>2</sup>, KIM Young-Gi<sup>1</sup>, KIM Jayhyun<sup>2</sup>, NA Yong-Su<sup>\*1</sup> (<sup>1</sup>Department of Nuclear Engineering, Seoul National University, <sup>2</sup>Advanced Plasma Physics Research Division, National Fusion Research Institute)

G11.06 [10:12 - 10:24]

**Modelling of a Microwave-Driven Capacitively Coupled Plasma Jet with Argon at Atmospheric Pressure** / LEE Jeong Yeon<sup>1,2</sup>, CHOI Jun<sup>\*2</sup> (<sup>1</sup>Department of Electrical Engineering, Pusan National University,

<sup>2</sup>Advanced Forming Process R&D Group, Korea Institute of Industrial Technology)

G11.07 [10:24 - 10:36]

**Self-consistent global model for plasma chemistry of surface microdischarge considering the effects of joule heating and gas flow** / YI Changho<sup>1</sup>, YOON Sungyoung<sup>1</sup>, EOM Sangheum<sup>1</sup>, PARK Seungil<sup>1</sup>, RYU Seungmin<sup>1</sup>, YOO Suk Jae<sup>1</sup>, KIM Seong Bong<sup>\*1</sup> (<sup>1</sup>국가핵융합연구소, 플라즈마기술연구센터)

G11.08 [10:36 - 10:48]

**Developments of Gas Monitor Detector for Intensity Measurement of XFEL** / HWANG Sunmin<sup>\*1</sup>, KOO Taeyeong<sup>1</sup>, KIM Myongjin<sup>1</sup>, KIM Seonghan<sup>1</sup>, KIM Seungnam<sup>1</sup>, PARK Jaeku<sup>1</sup>, PARK Jaehun<sup>1</sup>, LEE Chaesoon<sup>1</sup>, LEE Eunhee<sup>1</sup>, HYUN Hyojung<sup>1</sup> (<sup>1</sup>PAL-XFEL Beamline department, Pohang Accelerator Laboratory)

**[G12-ap] Nanomaterials and nanodevices I/Devices and application**

2017. 10. 27 Friday 09:00 – 10:36

Room : 206

좌장 : 김 관 표 울산과학기술원

Chair : KIM Kwanpyo (UNIST)

G12.01 [9:00 - 9:24]

**Electromagnetically-induced transparency-like effect, based on phase coupling in bending structures** / 황지섭<sup>1</sup>, 이영백<sup>1</sup> (<sup>1</sup>한양대학교, 물리학과)

G12.02 [9:24 - 9:36]

**An ideal material system to study the effect of Au tip on ReRAM switching: epitaxial brownmillerite oxide thin film** / RAVEENDRA N.V<sup>1,2</sup>, DASH Umasankar<sup>1,2</sup>, JUNG Chang Uk<sup>\*1,2</sup> (<sup>1</sup>Physics, Hankuk University of Foreign Studies, <sup>2</sup>Oxide Research Center, Hankuk University of Foreign Studies)

G12.03 [9:36 - 9:48]

**Graphene Based Nanoelectromechanical Mass Sensor** / SHIN Dong Hoon<sup>1</sup>, KIM Hakseong<sup>2</sup>, KWON Min Hee<sup>1</sup>, LEE Sang Wook<sup>\*1</sup> (<sup>1</sup>Department of Physics, Ewha Womans University, <sup>2</sup>Center for Quantum Measurement Science, Korea Research Institute of Standards and Science)

G12.04\* [9:48 - 10:00]

**Velocity Distribution Analysis of an Electromagnetic Pump for the Active Safety-grade Decay Heat Removal System in the PGSFR** / 곽재식<sup>1</sup>, 김희령<sup>1</sup> (<sup>1</sup>Department of Nuclear Engineering, Ulsan National Institute of Science and Technology)

G12.05\* [10:00 - 10:12]

**Graphene on self-ordered nanostructure porous anodic aluminum oxide** / 임성빈<sup>1</sup>, CHOI Jaewu<sup>\*1</sup> (<sup>1</sup>경희대학교, 정보디스플레이학과)

G12.06\* [10:12 - 10:24]

**Extrinsic disorder-induced magnetoresistance of monolayer graphene in contact with BiFeO<sub>3</sub> nano-island Array** / 전지훈<sup>1</sup>, 이덕현<sup>1</sup>, 김연수<sup>1</sup>, 오광택<sup>1</sup>, 이수연<sup>2</sup>, 박배호<sup>\*2</sup> (<sup>1</sup>Division of quantum phases & Devices, School of physics, Konkuk University, <sup>2</sup>Center for Electronic Materials, Korea Institute of Science and Technology)

G12.07\* [10:24 - 10:36]

**Analysis of Room Temperature Photoluminescence from V<sub>2</sub>O<sub>5</sub> Micro-Nanospheres** / LE Top Khac<sup>1</sup>, KANG Manil<sup>1</sup>, KIM Sokwon<sup>\*1</sup> (<sup>1</sup>Department of physics, Ulsan university)

**[G13-co] Condensed-matter computational physics III**

2017. 10. 27 Friday 9:00 – 10:24

Room : 300A

좌장 : 이 재 동 대구경북과학기술원

Chair : LEE JaeDong (DGIST)

G13.01 [9:00 - 9:12]

**Origin of distorted 1T-ReS<sub>2</sub> and quasi-1D phase transition in W<sub>x</sub>Re<sub>1-x</sub>S<sub>2</sub>** / 최지혜<sup>1</sup>, 지승훈<sup>\*1</sup> (<sup>1</sup>Department of Physics, POSTECH)

G13.02 [9:12 - 9:24]

**Atomic-scale control of the magnetism in hydrogenated graphene** / KIM Hyunyoung<sup>1</sup>, KANG Joongoo<sup>\*1</sup> (<sup>1</sup>Department of Emerging Materials Science, DGIST)

G13.03\* [9:24 - 9:36]

**Polaronic Behavior in Ca-doped BiFeO<sub>3</sub> as Origin of Electrochromism: A First-Principles Study** / LEE Joungee<sup>1</sup>, NAHM Ho-Hyun<sup>1</sup>, KIM Yong-Hyun<sup>\*1</sup> (<sup>1</sup>Graduate School of Nanoscience and Technology, Korea Advanced Institute of Science and Technology)

G13.04\* [9:36 - 9:48]

**Atomic oxygen binding to a Pt/Mn surface: ab initio investigation** / KIM Gwanwoo<sup>1</sup>, KIM Gunn<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Sejong University)

G13.05\* [9:48 - 10:00]

**Combined DFT and STM studies of SnSe and SnSe<sub>1-x</sub>S<sub>x</sub> alloys** / MIN Taewon<sup>1</sup>, DUVJIR Ganbat<sup>2</sup>, LY Trinh Thi<sup>2</sup>, BYUN Jinho<sup>1</sup>, KIM Taeheon<sup>2</sup>, SAAD Mahmoud M.<sup>2</sup>, HAI Nguyen Thi Minh<sup>2</sup>, DUONG Anh-Tuan<sup>2</sup>, CHO Sunglae<sup>2</sup>,

RHIM S.H.<sup>2</sup>, KIM Jungdae<sup>2</sup>, LEE Jaekwang<sup>\*1</sup> (<sup>1</sup>Department of Physics, Pusan National University, <sup>2</sup>Department of Physics, Ulsan University)

G13,06\* [10:00 - 10:12]

**Electronic Structure of the Substitutional W in GaSe Monolayer**  
/ PARK Eun-Won<sup>1</sup>, CHA Sun-Kyung<sup>1</sup>, KIM Miyoung<sup>1</sup>, KIM Hanchul<sup>\*1</sup>  
(<sup>1</sup>Department of Physics, Sookmyung Women's University)

G13,07\* [10:12 - 10:24]

**Reliability and applicability of magnetic force linear response theory: Numerical parameters, predictability, and orbital resolution**  
/ YOON Hongkee<sup>1</sup>, KIM Taek Jung<sup>1</sup>, SIM Jae-Hoon<sup>1</sup>, JANG Seung Woo<sup>1</sup>, HAN Myung Joon<sup>\*1</sup> (<sup>1</sup>KAIST, 물리학과)

SESSION H

2017 October 27(Fri) 11:00–12:48

**E [H1-pa] Pioneer: Sterile neutrino searches and the JSNS2 experiment II**

2017. 10. 27 Friday 11:00 – 12:48

Room : 101

좌장 : 김 수 봉 서울대

Chair : KIM Soo-Bong (Seoul National University)

H1,01 [11:00 - 11:36]  
**Status of the JSNS2 Project** / MARUYAMA Takasumi <sup>\*1</sup> (<sup>1</sup>PI of JSNS2, KEK)

H1,02 [11:36 - 12:00]  
**JSNS2 Detector Construction** / PARK Jungsic<sup>\*1</sup> (<sup>1</sup>IPNS, KEK)

H1,03 [12:00 - 12:24]  
**Sterile neutrino study by new schemes for low-energy neutrino sources by accelerator and non-accelerator** / SHIN Jae Won Shin<sup>1</sup>, CHEOUN Myung-Ki<sup>1</sup>, KAJINO T.<sup>2</sup>, HAYAKAWA T.<sup>\*3</sup> (<sup>1</sup>Dept. of Physics, Soongsil University, <sup>2</sup>Theoretical Division, National Observatory of Japan, <sup>3</sup>Quantum beam science directorate, JAEA)

H1,04 [12:24 - 12:48]  
**Liquid Scintillator Detectors and Sensitivity to DSNB** / PAC Myoung Youl <sup>\*1</sup>, CHOI June Ho<sup>1</sup> (<sup>1</sup>Department of Radiological Science, Dongshin University)

**[H2-pa] Particle physics theory**

2017. 10. 27 Friday 11:00 – 12:48

Room : 102

좌장 : 계 범 석 부산대

Chair : KYAE Bum Seok (Pusan National University)

H2,01 [11:00 - 11:12]  
**Thermally averaged Sommerfeld factor for heavy quarks in Quark-Gluon Plasma** / KIM Seyong<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sejong University)

H2,02 [11:12 - 11:24]  
**Identification of zero modes of QCD Dirac operator using improved staggered fermions** / 정환철<sup>1</sup>, 이원종<sup>\*1</sup>, Jon Bailey<sup>1</sup>, 좌승엽<sup>1</sup>, 김성희<sup>1</sup>, 이순규<sup>1</sup>, 박정환<sup>1</sup>, 김장호<sup>2</sup>, JUNG Chulwoo<sup>3</sup>, SHARPE Stephen R.<sup>4</sup> (<sup>1</sup>서울대학교, 물리천문학부, <sup>2</sup>Faculty of Physics, Bielefeld University, <sup>3</sup>Physics Department, Brookhaven National Laboratory, <sup>4</sup>Physics Department, University of

Washington)

H2.03\* [11:24 - 11:36]

**One-loop perturbative calculation of  $Z_q$  and  $Z_m$  in RI-MOM scheme using improved staggered quark** / CHOI Benjamin Jaedon<sup>\*1</sup>, KIM Jangho<sup>2</sup>, LEE Weonjong<sup>1</sup>, PARK Sungwoo<sup>1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Universitaet Bielefeld, Fakultät fuer Physik)

H2.04 [11:36 - 11:48]

**Improvement of heavy-heavy current for calculation of the semi-leptonic form factors using Oktay-Kronfeld action** / 임재훈<sup>1</sup>, 이원중<sup>\*1</sup>, Jon Bailey<sup>1</sup> (<sup>1</sup>Department of Physics & Astronomy, Seoul National University)

H2.05 [11:48 - 12:00]

**Calculation of zero-recoil form factor using the Oktay-Kronfeld action** / PARK Sungwoo<sup>1</sup>, LEE Weonjong<sup>\*1</sup>, BAILEY Jon<sup>1</sup>, GUPTA Rajan<sup>2</sup>, JANG Yong-Chull<sup>2</sup>, LEEM Jaehoon<sup>1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Theoretical Division T-2, Los Alamos National Laboratory)

H2.06 [12:00 - 12:12]

**Quenched spectrum in Sp(4) gauge theory** / LEE Jong-Wan<sup>\*1</sup>, BENNETT Ed<sup>2</sup>, HONG Deog-Ki<sup>1</sup>, LIN C. -J. David<sup>3</sup>, LUCINI Biagio<sup>2</sup>, PIAI Maurizio<sup>2</sup>, VADACCHINO Davide<sup>2</sup> (<sup>1</sup>Department of Physics, Pusan National University, <sup>2</sup>College of Science, Swansea University, <sup>3</sup>Institute of Physics, National Chiao-Tung University)

H2.07 [12:12 - 12:24]

**Lepton flavor non-universality from B-meson decays in a U(1)' model.** / BIAN Ligong<sup>1</sup>, CHOI Soo-Min<sup>1</sup>, KANG Yoo-Jin<sup>1</sup>, LEE Hyun Min<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chung-Ang University)

H2.08 [12:24 - 12:36]

**Vector SIMP dark matter** / CHOI Soo-Min<sup>1</sup>, LEE Hyun Min<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chung-Ang University)

H2.09 [12:36 - 12:48]

**Light bending in a Coulomb gas** / LEE Taekoon<sup>\*1</sup> (<sup>1</sup>Physics department, Kunsan National University)

[H3-as] Astrophysics experiments/observations II

2017. 10. 27 Friday 11:00 - 12:12

Room : 103

좌장 : 이 석 천 경상대

Chair : LEE Seok Cheon (Gyeongsang National University)

H3.01 [11:00 - 11:36]

**Probing the Dark Sector of the Universe through Gravitational Weak Lensing** / 지명국<sup>\*1</sup> (<sup>1</sup>연세대학교, 천문우주학과)

H3.02 [11:36 - 12:12]

**The Status of the GroundBIRD Experiment** / 원은일<sup>\*1</sup> (<sup>1</sup>고려대학교, 물리학과)

[H4-nu] Nuclear structure and astrophysics

2017. 10. 27 Friday 11:00 - 12:00

Room : 104

좌장 : 현 창 호 대구대

Chair : HYUN Chang Ho (Daegu University)

H4.01\* [11:00 - 11:12]

**Parameterization of Deformed Wood-Saxon Potential** / KIM Seonghyun<sup>1</sup>, HA Eunja<sup>1</sup>, CHEOUN Myung Ki<sup>\*1</sup> (<sup>1</sup>Department of Physics, Soongsil University)

H4.02 [11:12 - 11:24]

**Nuclear matter with intruder baryons** / KIM Youngman<sup>\*1</sup>, HARADA Masayasu<sup>2</sup>, TAKEDA Yusuke<sup>3</sup> (<sup>1</sup>Rare Isotope Science Project, Institute for Basic Science, <sup>2</sup>Department of Physics, Nagoya University, <sup>3</sup>Department of Physics, Nagoya University)

H4.03 [11:24 - 11:36]

**Role of the light mass nuclear reactions to the r-process nucleosynthesis** / KIM Kyungil<sup>\*1</sup>, Toshitaka Kajino<sup>2,3,4</sup>, Shota Shibagaki<sup>2,3</sup>, Youngman Kim<sup>1</sup>, Hironobu Ishiyama<sup>1</sup> (<sup>1</sup>Rare Isotope Science Project, Institute for Basic Science, <sup>2</sup>COSmology and Nuclear AstroPhysics, National Astronomical Observatory of Japan, <sup>3</sup>Department of Astronomy, University of Tokyo, <sup>4</sup>International Research Center for Big-Bang Cosmology and Element Genesis and School of Physics and Nuclear Energy Engineering, Beihang University)

H4.04\* [11:36 - 11:48]

**Equation of State for Nuclear Matter within a Skyrme Interaction by Systematic Treatment of Hyperon Interactions** / 최순철<sup>1</sup>, 천명기<sup>\*1</sup> (<sup>1</sup>숭실대학교, 물리학과)

H4.05 [11:48 - 12:00]

**Spectroscopic study of radionuclide <sup>21</sup>Na for the astrophysical <sup>17</sup>F(a,p)<sup>20</sup>Ne reaction rate** / CHAE Kyungyuk<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University)

[H5] No Session



## [H6-se] Semiconductor devices

2017. 10. 27 Friday 11:00 – 12:36

Room : 106

좌장 : 송 진 동 한국과학기술연구원

Chair : SONG Jin Dong (KIST)

### H6.01 [11:00 - 11:12]

**Fabrication and analysis of Cr-doped ZnTe intermediate band solar cell with high power conversion efficiency** / LEE Kyoung Su<sup>1</sup>, OH Gyu Jin<sup>1</sup>, KIM Eun Kyu<sup>\*1</sup> (<sup>1</sup>Department of physics, Hanyang university)

### H6.02\* [11:12 - 11:24]

**Sputter growth of oxygenated amorphous carbon for resistive random-access memory application** / HYEON Daseul<sup>1</sup>, BAEK Gwangho<sup>2</sup>, KIM Taeyoon<sup>1</sup>, JANG Gabriel<sup>1</sup>, HONG JinPyo<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Hanyang University, <sup>2</sup>Division of Nano-Scale Semiconductor Engineering, Hanyang University)

### H6.03 [11:24 - 11:36]

**The First-principles Study of Microscopic and Electronic Structure of CsBi<sub>3</sub>I<sub>10</sub>** / 김맹숙<sup>1</sup>, 신종문<sup>2</sup>, 송명관<sup>2</sup>, 이준희<sup>\*1</sup> (<sup>1</sup>School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology (UNIST), <sup>2</sup>Advanced Functional Thin Films Department, Korea Institute of Materials Science (KIMS))

### H6.04\* [11:36 - 11:48]

**Spin orbit torque-based electronic synapse** / SHIN Wonsub<sup>1</sup>, YANG Seungmo<sup>1</sup>, CHOI Jinhyung<sup>1</sup>, HONG Jinpyo<sup>\*1</sup> (<sup>1</sup>Novel Functional Materials and Devices Lab, Department of Physics, Hanyang University)

### H6.05\* [11:48 - 12:00]

**Control of spin-orbit-torque behaviors by various [Ta/W]n multi-stacked buffer layer in Heavy metal / Ferromagnet / Oxide trilayer** / CHOI Jinhyung<sup>1</sup>, YANG Seungmo<sup>1</sup>, SHIN Wonsub<sup>1</sup>, HONG Jinpyo<sup>\*1</sup> (<sup>1</sup>Novel Functional Materials and Devices Lab, The Research Institute for Natural Science, Department of Physics, Hanyang University)

### H6.06\* [12:00 - 12:12]

**Analysis of threshold switching characteristics of ZnTe. / JANG Gabriel<sup>1</sup>, KIM Taeyoon<sup>1</sup>, BAEK Gwangho<sup>2</sup>, HYUN Daseul<sup>1</sup>, HONG Jinpyo<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Hanyang University, <sup>2</sup>Division of Nano-scale Semiconductor Engineering, Hanyang University)**

### H6.07 [12:12 - 12:24]

**Silicon membrane 온도/임피던스 센서의 제작 및 특성 분석** / 유태균<sup>1</sup>, 김은섭<sup>1</sup>, 황신애<sup>1</sup>, 이지승<sup>2</sup>, 박찬흠<sup>2</sup>, 장문규<sup>\*1,3</sup> (<sup>1</sup>Major in Nano-Medical Devices Engineering, Hallym University, <sup>2</sup>Nano-Bio Regenerative Medical Institute, Hallym

University, <sup>3</sup>Department of Materials Science and Engineering, Hallym University)

### H6.08 [12:24 - 12:36]

**Suppressed Coulomb scattering and effective Schottky barrier reduction on MoS<sub>2</sub>/h-BN heterostructure** / JOO Min-Kyu<sup>\*1</sup>, MOON Byoung Hee<sup>1</sup>, JI Hyunjin<sup>2</sup>, HAN Gang Hee<sup>1</sup>, KIM Hyun<sup>2</sup>, LEE Gwan Mu<sup>2</sup>, LIM Seong Chu<sup>2</sup>, SUH Dongseok<sup>2</sup>, LEE Young Hee<sup>1,2</sup> (<sup>1</sup>Center for Integrated Nanostructure Physics (CINAP), Institute for Basic Science (IBS), <sup>2</sup>Department of Energy Science, Sungkyunkwan University (SKKU))

## [H7-co] Dielectrics/Functional oxides

2017. 10. 27 Friday 11:00 – 13:12

Room : 201

좌장 : 부 상 돈 전북대

Chair : BU Sang Don (Chonbuk National University)

### H7.01 [11:00 - 11:24]

**VO<sub>2</sub> Phase Transition Dynamics through Designed Heterostructures** / LEE Daesu<sup>\*1,2</sup> (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>2</sup>Department of Physics and Astronomy, Seoul National University)

### H7.02 [11:24 - 11:48]

**Strain-mediated manipulating of photocatalytic property in BiVO<sub>4</sub>** / 최민석<sup>\*1</sup> (<sup>1</sup>인하대학교, 물리학과)

### H7.03\* [11:48 - 12:00]

**Realization of room-temperature ferroelectricity in brownmillerite thin film** / KANG Kyeong Tae<sup>1</sup>, YOO Tae Sup<sup>1</sup>, KANG Seunghoon<sup>2</sup>, SEOL Daehee<sup>2</sup>, KIM Yunseok<sup>2</sup>, ROH Changjae<sup>3</sup>, LEE Jongseok<sup>3</sup>, LIM Jin Young<sup>4</sup>, YU Jae Jun<sup>4</sup>, LEE Taeyoon<sup>5</sup>, LEE Kyeongjoon<sup>5</sup>, CHAE Seungchul<sup>5</sup>, CHOI Woo Seok<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University, <sup>2</sup>School of Advanced Materials Science and Engineering, Sungkyunkwan University, <sup>3</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology, <sup>4</sup>Department of Physics and Astronomy, Seoul National University, <sup>5</sup>Department of Physics Education, Seoul National University)

### H7.04\* [12:00 - 12:12]

**Ferroelectricity in epitaxial Y doped HfO<sub>2</sub> thin film integrated on Si substrate** / 이경준<sup>1</sup>, 이태윤<sup>1</sup>, 임흥현<sup>1</sup>, 채승철<sup>\*1</sup> (<sup>1</sup>서울대학교, 물리교육과)

### H7.05 [12:12 - 12:24]

**Effect of oxygen vacancies on physical properties of MoO<sub>3-x</sub>** / KONG Hyeonjun<sup>1</sup>, KIM Gwoon<sup>1</sup>, KIM Hyegyeong<sup>2</sup>, CHO Jinhyoung<sup>3</sup>, JEEN Gwang-Soo<sup>1</sup>, LEE Inwon<sup>4</sup>, JEEN Hyoungeen<sup>\*1</sup> (<sup>1</sup>Department of Physics, Pusan National University, <sup>2</sup>Core Research Facility, Pusan National University, <sup>3</sup>Department of Physics Education, Pusan National University, <sup>4</sup>Global Core Research Center for Ships and Offshore Plants, Pusan National University)

H7.06\* [12:24 - 12:36]

**Configurable topological textures in strain graded ferroelectric nanoplates** / KIM Kwang-Eun<sup>1</sup>, JEONG Seuri<sup>1</sup>, CHU Kanghyun<sup>1</sup>, LEE Jin Hong<sup>1</sup>, KIM Gi-Yeop<sup>2,3</sup>, KOO Tae Yeong<sup>4</sup>, CHOI Si-Young<sup>2</sup>, RAMESH Ramamoorthy<sup>5,6,7</sup>, YANG Chan-Ho<sup>\*1,8</sup> (<sup>1</sup>Department of Physics, KAIST, <sup>2</sup>Advanced Characterization & Analysis Group, KIMS, <sup>3</sup>Department of Materials Science and Engineering, Pusan National University, <sup>4</sup>Pohang Accelerator Laboratory, POSTECH, <sup>5</sup>Department of Materials Science and Engineering, University of California, <sup>6</sup>Department of Physics, University of California, <sup>7</sup>Materials Sciences Division, Lawrence Berkeley National Laboratory, <sup>8</sup>KAIST Institute for the NanoCentury, KAIST)

H7.07\* [12:36-12:48]

**Sulfurization of Ferroelectric Perovskite Oxides** / MUHAMMAD Sheeraz<sup>1</sup>, KIM Ill Won<sup>1</sup>, AHN Chang Won<sup>1</sup>, KIM Tae Heon<sup>\*1</sup> (<sup>1</sup>Department of Physics and Energy Harvest Storage Research Center, University of Ulsan)

H7.08\* [12:48-13:00]

**The effect of Acceptor and Donor Doping on Defects and charge transports in Mn-modified 0.67Bi1.05FeO3 - 0.33BaTiO3 ceramics** / KIM D. J.<sup>1</sup>, LEE M. H.<sup>1</sup>, SONG T. K.<sup>\*1</sup>, KIM M.-H.<sup>1</sup>, KIM W.-J.<sup>2</sup>, DO D.<sup>3</sup> (<sup>1</sup>School of Materials Science and Engineering, Changwon National University, <sup>2</sup>Department of Physics, Changwon National University, <sup>3</sup>Department of Advanced Materials Engineering,, Keimyung University)

H7.09\* [13:00-13:12]

**Stabilization of hexagonal structure in (Lu,In)FeO<sub>3</sub>** / CHO Kwanghee<sup>1</sup>, KIM Hakbeom<sup>1</sup>, PARK Soonyong<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chung-Ang University)

**[H8-co] Superconductivity**

2017. 10. 27 Friday 11:00 – 12:48

Room : 202

좌장 : 심 지 훈 포항공대

Chair : SHIM Ji Hoon (POSTECH)

H8.01 [11:00 - 11:12]

**Synthesis and superconductivity in oxysulfate-based cuprates** / LEE HOkeun<sup>\*1</sup>, KIM JIN<sup>1</sup> (<sup>1</sup>Department of Physics, Kangwon National University)

H8.02 [11:12 - 11:24]

**Analysis of Pairing Symmetry for Flux Quantization Measured in the YBCO-Pb Corner Junction, DC SQUIDS, and the Tricrystal Superconducting Ring of YBCO** / 김현탁<sup>\*1</sup> (<sup>1</sup>MIT Research Lab., ETRI)

H8.03 [11:24 - 11:36]

**Reconciliation of STS and ARPES in Fe-based Superconductors** /

홍종배<sup>\*1</sup> (<sup>1</sup>서울대학교, 물리천문학부)

H8.04\* [11:36 - 11:48]

**Spin polarized STM study on strongly underdoped cuprate superconductor La-Bi2201** / JUNG JinOh<sup>1</sup>, LEE Yeonghoon<sup>1</sup>, SONG Dongjoon<sup>2</sup>, Choi Seokhwan<sup>1</sup>, EISAKI Hiroshi<sup>2</sup>, LEE Jhinhwan<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), <sup>2</sup>Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST))

H8.05\* [11:48 - 12:00]

**Interplay between magnetism and superconductivity in Pr<sub>1-x</sub>LaCe<sub>x</sub>CuO<sub>4-δ</sub>** / LEE Suheon<sup>1</sup>, LEE Wonjun<sup>1</sup>, CHOI Youngsu<sup>1</sup>, SONG Dongjoon<sup>2</sup>, PARK Seung Ryong<sup>3</sup>, Kim Changyoung<sup>4</sup>, CHOI Kwang Yong<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chung-Ang University, <sup>2</sup>Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology, <sup>3</sup>Department of Physics, Incheon National University, <sup>4</sup>Department of Physics and Astronomy, Seoul National University)

H8.06\* [12:00 - 12:12]

**T<sub>c</sub> enhancement on fully strained superconducting BaPb<sub>1-x</sub>BixO<sub>3</sub> thin film** / KIM Jinkwon<sup>1,2</sup>, LEE Han-Gyeol<sup>1,2</sup>, KIM Bongju<sup>1,2</sup>, LEE Daesu<sup>1,2</sup>, KIM Tae Heon<sup>3</sup>, LEE Shinbuhm<sup>4</sup>, CHANG Seohyoung<sup>5</sup>, NOH Tae Won<sup>\*1,2</sup> (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>2</sup>Department of Physics and Astronomy, Seoul National University, <sup>3</sup>Department of Physics, University of Ulsan, <sup>4</sup>Department of Emerging Materials Science, DGIST, <sup>5</sup>Department of Physics, Chung-Ang University)

H8.07 [12:12 - 12:24]

**Switching Magnetism and Superconductivity with Spin-Polarized Current in an Iron-Based Superconductor** / CHOI Seokhwan<sup>1</sup>, CHOI Hyoung Joon<sup>2</sup>, OK Jong Mok<sup>3</sup>, LEE Yeonghoon<sup>1</sup>, JANG Won-Jun<sup>4,5</sup>, LEE Alex Taekyung<sup>6</sup>, KUK Young<sup>7</sup>, LEE SungBin<sup>1</sup>, HEINRICH Andreas J.<sup>4,5</sup>, CHEONG Sang-Wook<sup>8</sup>, BANG Yunkyu<sup>9</sup>, JOHNSTON Steven<sup>10</sup>, KIM Jun Sung<sup>3</sup>, LEE Jhinhwan<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), <sup>2</sup>Department of Physics and Center for Computational Studies of Advanced Electronic Material Properties, Yonsei University, <sup>3</sup>Department of Physics, Pohang University of Science and Technology, <sup>4</sup>Center for Quantum Nanoscience, Institute for Basic Science (IBS), <sup>5</sup>Physics Department, Ewha Womans University, <sup>6</sup>Department of Applied Physics and Applied Mathematics, Columbia University, <sup>7</sup>Department of Physics and Astronomy, Seoul National University, <sup>8</sup>Rutgers Center for Emergent Materials and Department of Physics and Astronomy, Rutgers University, <sup>9</sup>Department of Physics, Chonnam National University, <sup>10</sup>Department of Physics and Astronomy, University of Tennessee)

H8.08 [12:24 - 12:36]

**Thermal activation energy of 3D vortex matter in NaFe<sub>1-x</sub>Co<sub>x</sub>As**

( $x=0.01, 0.03$  and  $0.07$ ) single crystals / 최우재<sup>1</sup>, 서유일<sup>1</sup>, DAWOOD Ahmad<sup>1</sup>, 권용성<sup>1</sup> (<sup>1</sup>신물질과학전공, DGIST)

H8.09 [12:36 - 12:48]

**Optical Properties due to the competition between superconducting states and Kondo states in  $(\text{Ca}_{1-x}\text{La}_x)\text{10}(\text{Pt}_3\text{As}_8)(\text{Fe}_2\text{As}_2)_5$  ( $x=0, 0.032, 0.082$ )** / 서유일<sup>1</sup>, 최우재<sup>1</sup>, KIMURA Shin-ichi<sup>2</sup>, 권용성<sup>1</sup> (<sup>1</sup>신물질과학, DGIST, <sup>2</sup>FBS and Department of Physics, Osaka University)

**[H9-co] Strongly correlated systems II**

2017. 10. 27 Friday 11:00 – 12:36

Room : 203

좌장 : 김 기 석 포항공대

Chair : KIM Ki Seok (POSTECH)

H9.01 [11:00 - 11:12]

**Critical vortex shedding in a strongly interacting Fermi gas** / PARK Jee Woo<sup>1,2</sup>, KO Bumsuk<sup>1,2</sup>, SHIN Yong-il<sup>1,2</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Center for Correlated Electron Systems, Institute for Basic Science)

H9.02 [11:12 - 11:24]

**Critical spin superflow in a spinor Bose-Einstein condensate** / KIM Joon Hyun<sup>1</sup>, SEO Sang Won<sup>1,2</sup>, SHIN Yong-il<sup>1,2</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Center for Correlated Electron Systems, Institute for Basic Science)

H9.03 [11:24 - 11:36]

**Insulator-metal transition through applied pressure in 2D hexagonal antiferromagnet  $\text{FePS}_3$**  / COAK Matthew John<sup>1,2</sup>, HAINES Charles Robert Sebastian<sup>2,3</sup>, LIU Cheng<sup>2,3</sup>, SAXENA Siddharth Shankar<sup>2</sup> (<sup>1</sup>IBS Centre for Correlated Electron Systems, Seoul National University, <sup>2</sup>Cavendish Laboratory, University of Cambridge, <sup>3</sup>Camcool Research Ltd, UK, Camcool Research Ltd, UK)

H9.04 [11:36 - 11:48]

**Search for the low-temperature highly correlated phase in the charge-density-wave 1T-TaS2 compound** / KRATOCHVILOVA Marie<sup>1,2</sup>, HILLIER Adrian<sup>3</sup>, WILDES Andrew<sup>4</sup>, WANG Lihai<sup>5</sup>, CHEONG Sang-Wook<sup>5</sup>, YU Yunjie<sup>6</sup>, LI Shiyang<sup>6</sup>, PAARK Je-Geun<sup>1,2</sup> (<sup>1</sup>Department of Physics & Astronomy, Seoul National University, <sup>2</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>3</sup>ISIS, STFC, Rutherford Appleton Laboratory, <sup>4</sup>Science Department, Institute Laue-Langevin, <sup>5</sup>Rutgers Center for Emergent Materials, Department of Physics & Astronomy, Rutgers University, <sup>6</sup>State Key Laboratory of Surface Physics, Department of Physics, and Laboratory of Advanced Materials, Fudan University)

H9.05 [11:48 - 12:00]

**Unconventional charge ordering in 3D metallic single crystal of  $\text{Na}_{2.7}\text{Ru}_4\text{O}_9$**  / Arvind Yogi<sup>1,2</sup>, C. I. Sathish<sup>1,2</sup>, Hasung Sim<sup>1,2</sup>, Y. Noda<sup>3</sup>, Je-Geun Park<sup>1,2</sup> (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science (IBS), <sup>2</sup>Department of Physics and Astronomy, Seoul National University, <sup>3</sup>Institute of Multidisciplinary Research for Advanced Materials, Tohoku University)

H9.06 [12:00 - 12:12]

**Anisotropy of magnetic interactions and symmetry of the order parameter in unconventional superconductor  $\text{Sr}_2\text{RuO}_4$**  / 김봉재<sup>1</sup> (<sup>1</sup>Physics, POSTECH)

H9.07 [12:12 - 12:24]

**Correlated electronic structure of  $\text{Sr}_2\text{RuO}_4$ : A DFT+DMFT study** / 이형준<sup>1,3</sup>, 고아라<sup>2</sup>, 김충현<sup>1,3</sup> (<sup>1</sup>서울대학교, 물리천문학부, <sup>2</sup>기초과학연구원, 복잡계이론물리연구단, <sup>3</sup>기초과학연구원, 강상관계물질연구단)

H9.08 [12:24 - 12:36]

**Role of Coulomb interaction in the multi-fractality of Anderson transition** / LEE Hyun-Jung<sup>1</sup>, KIM Ki-Seok<sup>1</sup> (<sup>1</sup>Department of Physics, Pohang University of Science and Technology)

**[H10-op] Solid State Lasers & Systems**

2017. 10. 27 Friday 11:00 – 12:24

Room : 204

좌장 : 정 환 성 (LIG)

Chair : JEONG Hwan Sung (LIG)

H10.01 [11:00 - 11:24]

**나노카본물질과의 소멸장 상호작용을 통해 Q-스위칭 된 Yb:KYW 고체 평면도파로 레이저 Yb:KYW solid-state planar waveguide lasers Q-switched by evanescent field interaction with nanocarbons** / 김준완<sup>1</sup>, 최선영<sup>2</sup>, ARAVAZHI Shanmugam<sup>3</sup>, POLLNAU Markus<sup>4</sup>, MATEOS Xavier<sup>5</sup>, DÍAZ Francesc<sup>5</sup>, GRIEBNER Uwe<sup>6</sup>, PETROV Valentin<sup>6</sup>, 김광훈<sup>1</sup>, ROTERMUND Fabian<sup>7</sup> (<sup>1</sup>한국전기연구원, 전자기파응용연구센터, <sup>2</sup>Institut für Laser-Physik, Universität Hamburg, <sup>3</sup>MESA+ Institute for Nanotechnology, University of Twente, <sup>4</sup>Department of Materials and Nano Physics, KTH – Royal Institute of Technology, <sup>5</sup>Física i Cristal·lografia de Materials i Nanomaterials (FiCMA-FiCNA), Universitat Rovira i Virgili (URV), <sup>6</sup>Max-Born-Institute for Nonlinear Optics and Short Pulse Spectroscopy, Max-Born-Institute, <sup>7</sup>한국과학기술원, 물리학과)

H10.02\* [11:24 - 11:36]

**펄스 레이저의 효율적인 2차 조화파 생성을 위한 NLO 결정의 조건 최적화** / 김동준<sup>1,2</sup>, 이병학<sup>2</sup>, 허두창<sup>2</sup>, 김광훈<sup>2</sup>, 김지원<sup>1</sup> (<sup>1</sup>한양대학교, 응용물리학과, <sup>2</sup>한국전기연구원, 전자기파응용연구센터)

H10.03\* [11:36 - 11:48]

고출력 고효율 피코초 MOPA 시스템 / 노승현<sup>1</sup>, 김태형<sup>1</sup>, 김동준<sup>1</sup>, 김지원<sup>1</sup>, 구자남<sup>2</sup>, 김성훈<sup>2</sup>, 신동준<sup>2</sup>, 이정섭<sup>2</sup>, 신종근<sup>2</sup> (<sup>1</sup>한양대학교, 응용물리학과, <sup>2</sup>(주)이오테크닉스, R&D Center)

H10.04 [11:48 - 12:00]

4 PW 레이저 빔의 회절 한계 집속을 통한 초강력 레이저 생성 / 윤진우<sup>1,2</sup>, 이성구<sup>1,2</sup>, 성재희<sup>1,2</sup>, 이황운<sup>1</sup>, 최일우<sup>1,2</sup>, 전천하<sup>1</sup>, 신정훈<sup>1</sup>, 남창희<sup>1,3</sup> (<sup>1</sup>기초과학연구원, 초강력레이저과학연구단, <sup>2</sup>광주과학기술원, 고등광기술연구소, <sup>3</sup>광주과학기술원, 물리광학과)

H10.05\* [12:00 - 12:12]

Analysis of output pulse energy and remained energy change according to input pulse length in double pass laser amplifier 이중통과 레이저 증폭기에서 입력펄스의 길이에 따른 출력펄스에너지 및 매질 저장에너지 변화 분석 / 박대웅<sup>1</sup>, 정지훈<sup>1</sup>, 유태준<sup>1,2</sup> (<sup>1</sup>한동대학교, 첨단그린에너지환경학과, <sup>2</sup>한동대학교, Global Institute of Laser Technology)

H10.06 [12:12 - 12:24]

Single cycle pulse generation with a cascade spectral broadening and its characterization using a tunneling ionization method / Sung In Hwang<sup>1</sup>, Seung Beom Park<sup>1</sup>, Jehoi Mun<sup>1</sup>, Chang Hee Nam<sup>1,2</sup>, KyungTaec Kim<sup>1,2</sup> (<sup>1</sup>Center for Relativistic Laser Science, Institute for Basic Science, <sup>2</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology)

[H11-pl] Accelerator, Beam II & Basic plasmas

2017. 10. 27 Friday 11:00 – 12:48

Room : 205

좌장 : 방 우 석 광주과학기술원

Chair : BANG Woosuk (GIST)

H11.01 [11:00 - 11:24]

Dynamics of water-ice grains spontaneously generated in a plasma where gravitational force is compensated by thermophoretic force. / CHAI Kil-Byoung<sup>1</sup> (<sup>1</sup>Nuclear Data Center, Korea Atomic Energy Research Institute)

H11.02 [11:24 - 11:36]

Effects of Surface Tension Decrease in Plasma Treated Water on the Characteristics of the Pin-to-Water Plasma / Yoon Sung-Young<sup>1</sup>, JEON Hyeonwon<sup>1</sup>, YI Changho<sup>1</sup>, PARK Seungil<sup>1</sup>, RYU Seungmin<sup>1</sup>, KIM Seong Bong<sup>1</sup>, YOO Suk Jae<sup>1</sup> (<sup>1</sup>Plasma Technology Research Center, National Fusion Research Institute)

H11.03 [11:36 - 11:48]

레이저 펄스 재이용을 통한 효과적인 이온 가속 연구 / 김영국<sup>1</sup>, 강태연<sup>1</sup>, 정문연<sup>2</sup>, 허민섭<sup>1</sup> (<sup>1</sup>울산과학기술원, 자연과학부, <sup>2</sup>한국전자통신연구원, 바이오의료연구본부)

H11.04\* [11:48 - 12:00]

Ultrafast charge dynamics: proton imaging/deflectometry / Sharif Saqib<sup>1</sup>, Singh, Prashant Kumar<sup>1,2</sup>, Ahmad Hamad<sup>3</sup>, Bychenkov Valery Yur'evich<sup>4</sup>, Borghesi Marco<sup>3</sup>, Suk Hyyong<sup>1</sup>, Ter-Avetisyan Sargis<sup>5</sup> (<sup>1</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology (GIST), <sup>2</sup>Center for Relativistic Laser Science (CoReLS), Institute for Basic Science (IBS), Korea, <sup>3</sup>Department of Physics, Queen's University Belfast, <sup>4</sup>Russian Academy of Sciences, P. N. Lebedev Physics Institute, <sup>5</sup>Attosecond Light Pulse Source (ALPS), Extreme Light Infrastructure (ELI))

H11.05\* [12:00 - 12:12]

Relativistic electron beams produced by an ultra-intense circularly polarized Laguerre-Gaussian laser pulse / SONG Hoon<sup>1,2</sup>, PAE Kihong<sup>1,3</sup>, KIM Chulmin<sup>1,3</sup>, NAM Changhee<sup>1,2</sup> (<sup>1</sup>Center for Relativistic Laser Science, Institute for Basic Science, <sup>2</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology, <sup>3</sup>Advanced Photonics Research Institute, Gwangju Institute of Science and Technology)

H11.06 [12:12 - 12:24]

High-power microwave generation experiments using relativistic electron beam accelerators and millimeter-terahertz (THz) wave source research and biomedical application / Sun-Hong Min<sup>1,3</sup>, Ohjoon Kwon<sup>2</sup>, Matlabjon Sattorov<sup>3,4</sup>, In-Keun Baek<sup>3,4</sup>, Seontae Kim<sup>3</sup>, Dongpyo Hong<sup>3</sup>, Jin-Young Jeong<sup>3</sup>, Jungmin Jang<sup>3</sup>, Ranajoy Bhattacharya<sup>3</sup>, Gun-Sik Park<sup>3,4</sup> (<sup>1</sup>Division of Heavy-ion Clinical Researches, Korea Institute of Radiological and Medical Science, <sup>2</sup>Axion and Precision Physics Research, Institute for Basic Science Center, <sup>3</sup>Center for THz-driven Biomedical Systems, Department of Physics and Astronomy, Seoul National University, <sup>4</sup>R&D department, Seoul-Teracom)

H11.07 [12:24 - 12:36]

Enhancement of proton fraction by controlling electron temperature using transverse magnetic field in pulse-operated PIG hydrogen ion source / CHOE Kyumin<sup>1</sup>, CHUNG Kyoung-Jae<sup>1</sup>, HWANG Y. S.<sup>1</sup> (<sup>1</sup>Department of Nuclear Engineering, Seoul National University)

H11.08\* [12:36 - 12:48]

Study of ESASE scheme for generating terawatt attosecond X-ray pulse in XFELs / SHIM Chi Hyun<sup>1</sup>, KO In Soo<sup>1</sup>, KIM Dong Eon<sup>2,3</sup>, PARC Yong Woon<sup>4</sup> (<sup>1</sup>Department of Physics, Pohang University of Science and Technology, <sup>2</sup>Department of Physics, Center for Attosecond Science and Technology, Pohang University of Science and Technology, <sup>3</sup>Max-Planck-Center for Attosecond Science,

**[H12-ap] Nanomaterials and nanodevices II/Spin and magnetism**

2017. 10. 27 Friday 11:00 – 12:12

Room : 206

좌장 : 장 영 준 시립대

Chair : CHANG Young Jun (University of Seoul)

**H12.01\*** [11:00 - 11:12]

**The study of synaptic plasticity in two-dimensional chromium thiophosphate (CrPS4) CBRAM** / LEE Mi Jung<sup>1</sup>, LEE Sangik<sup>1</sup>, LEE Sungmin<sup>2,3</sup>, K. Balamurugan<sup>2,3</sup>, YOON Chansoo<sup>1</sup>, JANG Jun Tae<sup>4</sup>, KIM Sung-Hoon<sup>5,6</sup>, AHN Jae-Pyoung<sup>5</sup>, KIM Dae Hwan<sup>4</sup>, PARK Je-Geun<sup>2,3</sup>, PARK Bae Ho<sup>\*1</sup> (<sup>1</sup>Department of physics, Konkuk university, <sup>2</sup>Department of Physics and Astronomy, Seoul National University, <sup>3</sup>Center for Correlated Electron Systems Institute for Basic Science, Seoul National University, <sup>4</sup>School of Electrical Engineering, <sup>5</sup>Korea Institute of Science and Technology, Advanced Analysis Center, Kookmin University, <sup>6</sup>Department of Materials Science and Engineering, Korea University)

**H12.02\*** [11:12 - 11:24]

**Synaptic Plasticity Selectively Activated by Polarization-Dependent Energy-Efficient Ion Migration in an Ultrathin Ferroelectric Tunnel Junction** / Chansoo Yoon<sup>1</sup>, Ji Hye Lee<sup>1</sup>, Sangik Lee<sup>1</sup>, Ji Hoon Jeon<sup>1</sup>, Jun Tae Jang<sup>2</sup>, Dae Hwan Kim<sup>2</sup>, Young Heon Kim<sup>3</sup>, Bae Ho Park<sup>\*1</sup> (<sup>1</sup>건국대학교, 물리학과, <sup>2</sup>국민대학교, 전자공학과, <sup>3</sup>한국표준과학연구원, 산업측정표준본부)

**H12.03\*** [11:24 - 11:36]

**The study of Al layer effect on black phosphorus field effect transistors** / LEE Sangik<sup>1</sup>, YOON Chansoo<sup>1</sup>, LEE Ji Hye<sup>1</sup>, KIM Yeon Soo<sup>1</sup>, LEE Mi Jung<sup>1</sup>, KIM Wondong<sup>2</sup>, BAIK Jaeyoon<sup>3</sup>, CHOI. E. J<sup>4</sup>, PARK Bae Ho<sup>\*1</sup> (<sup>1</sup>Department of Physics, Konkuk University, <sup>2</sup>Center for Nanometrology, Korea Research Institute of Standards and Science, <sup>3</sup>Pohang Accelerator Laboratory, Pohang University of Science and Technology, <sup>4</sup>Department of physics, University of Seoul)

**H12.04\*** [11:36 - 11:48]

**Epitaxial growth of AuCN Nanowires on graphene for Hybrid Phototransistors** / JANG Jeongsu<sup>1</sup>, LEE Yangjin<sup>1</sup>, YOON Jun-Yeong<sup>1</sup>, YOON Hoon Hahn<sup>1</sup>, KOO Jahyun<sup>2</sup>, CHOE Jeongheon<sup>1</sup>, PARK Jungwon<sup>3,4</sup>, LEE Won Chul<sup>5</sup>, LEE Hoonkyung<sup>2</sup>, JEONG Hu Young<sup>6</sup>, PARK Kibog<sup>1</sup>, KIM Kwanpyo<sup>\*1</sup> (<sup>1</sup>Department of Physics, Ulsan National Institute of Science and Technology (UNIST), <sup>2</sup>Department of Physics, Konkuk University, <sup>3</sup>Center for Nanoparticle Research, Institute for Basic Science (IBS), <sup>4</sup>School of Chemical and Biological

Engineering, Seoul National University, <sup>5</sup>Department of Mechanical Engineering, Hanyang University, <sup>6</sup>UNIST Central Research Facilities (UCRF), Ulsan National Institute of Science and Technology (UNIST))

**H12.05** [11:48 - 12:00]

**Observation of tilting domain wall motion due to the interfacial Dzyaloshinskii-Moriya interaction in perpendicularly magnetized junction** / KWON Jaesuk<sup>1</sup>, HWANG Hee-Kyeong<sup>1</sup>, HONG Jung-II<sup>1</sup>, YOU Chun-Yeol<sup>\*1</sup> (<sup>1</sup>Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science and Technology)

**H12.06** [12:00 - 12:12]

**Ultrafast giant magnetic cooling effect in ferromagnetic Co/Pt multilayers** / SHIM Je-Ho<sup>1,2,3</sup>, ALI Syed Akbar<sup>2,3</sup>, KIM Chul-Hoon<sup>2,3,4</sup>, LEE Kyung Min<sup>5</sup>, PARK Seung-Young<sup>6</sup>, JEONG Jong-Ryul<sup>5</sup>, KIM Dong-Hyun<sup>1</sup>, KIM Dong Eon<sup>\*2,3</sup> (<sup>1</sup>Department of Physics, Chungbuk National University, <sup>2</sup>Department of Physics & Center for Attosecond Science and Technology, POSTECH, <sup>3</sup>Max Planck Center for Attosecond Science, Max Planck POSTECH/KOREA Research Initiative, <sup>4</sup>Department of Advanced Materials Chemistry, Korea University, <sup>5</sup>Department of Material Science and Engineering and Graduate School of Energy Science and Technology, Chungnam National University, <sup>6</sup>Spin Engineering Physics Team, Korea Basic Science Institute)

**[H13-co] See [T5-co] for 'Tutorial: Introduction to Dirac and Weyl semimetals'**

**[T1-co] Tutorial: Spin-orbit coupling in strongly correlated systems**

2017.10.25 (Wed) 11:00 – 12:48

Room : 201

좌장 : 문 순 재 (한양대)

Chair : MOON Soonjae (Hanyang University)

**T1.01 (초)** [11:00 - 12:48]

**Spin-orbit coupling in strongly correlated systems** / KIM Yeong Kwan<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology)

**[T2-pa] Tutorial: Machine learning in search for new physics beyond the standard model**

2017.10.25 (Wed) 16:00 – 17:48

Room : 103

좌장 : 권 영 준 (연세대)

Chair : KWON Youngjoon (Yousei University)

T2.01(초) [16:00 - 16:54]

**Machine Learning Algorithms for High Energy Physics / 조원상**  
(CHO, Won Sang)\*<sup>1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

T2.02 (초) [16:54 - 17:48]

**포스트 힉스 시대의 딥 러닝 / 김태정\*** (<sup>1</sup>Department of Physics, Hanyang University)

**[T3-bp] Tutorial: Super-resolution imaging**

2017.10.25 Wednesday 16:00 – 17:00

Room : 300B

좌장 : 이 종 봉 (포항공대)

Chair : LEE Jong-Bong (POSTECH)

T3.01 (초) [16:00 - 17:00]

**초고해상도 광학 이미징 / 심상희\*** (<sup>1</sup>고려대학교, 화학과)

**[T4-as] Tutorial: Quantum entanglement and gravity**

2017.10.26 Thursday 16:00 – 17:48

Room : 103

좌장 : 조 인 용 (서울과학기술대학교)

Chair : CHO Inyong (Seoul National University of Science and Technology)

T4.01 (초) [16:00 - 16:36]

**양자얽힘과 중력의 기초 / 이재원\*** (<sup>1</sup>중원대학교, 신재생에너지학과)

T4.02 (초) [16:36 - 17:12]

**홀로그래픽 양자얽힘 엔트로피와 중력 / 박찬용\*** (<sup>1</sup>APCTP)

T4.03 (초) [17:12 - 17:48]

**얽힘으로부터 시공간 이해하기 / 김경규\*** (<sup>1</sup>세종대학교, 물리천문학과)

**[T5-co] Tutorial: Introduction to Dirac and Weyl semimetals**

2017.10.27 Friday 11:00 – 12:48

Room : 300A

좌장 : 문 순 재 (한양대)

Chair : MOON Soonjae (Hanyang University)

T5.01 (초) [11:00 - 12:48] ♦Award Winner's Presentation

**Introduction to Dirac and Weyl semimetals / YANG Bohm Jung\***  
(<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

**[W1-or] KIAS 대중강연: 물리학의 최전선**

**KIAS Public Lecture: The Frontiers of Physics**

2017.10.26 Thursday 18:00 – 20:00

Room : 300C

좌장 : 백 승 원(고등과학원)

Chair : BAEK Seungwon (KIAS)

W1.01 [18:00 - 18:50]

**아인슈타인과 우주 : 100년의 신화 / 김항배** (한양대)

W1.02 [19:00 - 19:50]

**많음, 다름, 그리고 양자역학 More, Different, and Quantum / 박권**  
(KIAS)

**[W2-or] 학부생 작품 발표회**

**Undergraduate research poster session**

2017.10.26 Thursday 18:00 – 19:30

Room : Exhibition Hall

좌장 : 이 신 범 (DGIST)

Chair : LEE Shinbuhm (DGIST)

**[Y1-or] KPS 기초강연 1**

**KPS plenary talk 1**

2017.10.25 Wednesday 13:00 – 13:48

Room : 300C

좌장 : 정 우 성 (포항공대)

Chair : JUNG Woo-Sung (POSTECH)

Y1.01 (초) [13:00 - 13:48]

**Quantum Black Holes and the Structure of Space and Time / 'T**  
HOOFT Gerard (Utrecht University)

**[Y2-or] KPS 기초강연 2**

**KPS plenary talk 2**

2017.10.26 Thursday 13:00 – 13:48

Room : 300C

좌장 : 박 권 (고등과학원)

Chair : PARK Kwon (KIAS)

Y2.01 (초) [13:00 - 13:48]

**The Quantum Properties of Magnetic Atoms on Surfaces /**  
HEINRICH Andreas J. (Center for Quantum Nanoscience, Institute for Basic Science; Physics Department, Ewha Womans University)



# **포스터발표논문 시간표**

Poster session schedule

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00

Presentation: 2017.10.25 Wednesday 18:00-19:30

Place: Exhibition Hall

**P1-ap.101**

**고굴절 박막을 활용한 실크 단백질 유기레이저 발진** / UMAR Muhammad<sup>1</sup>, MIN Kyungtaek<sup>1</sup>, KIM Sunghwan<sup>\*1,2</sup> (<sup>1</sup>Ajou University, Department of Energy Systems Research, <sup>2</sup>Ajou University, Department of Physics)

**P1-ap.102**

**Morphology-dependent Switching Property of Organolead Halide Perovskite Memory Device** / HAM Seong-gil<sup>1</sup>, WANG Gunuk<sup>\*1</sup> (<sup>1</sup>KU-KIST Graduate School of Converging Science & Technology, Korea University)

**P1-ap.103**

**Development of an artificial synapse based on ferroelectric organic field-effect transistor for wearable neuromorphic applications** / JANG Seonghoon<sup>1</sup>, JANG Sukjae<sup>2</sup>, WANG Gunuk<sup>\*1</sup>, KIM Tae-Wook<sup>2</sup> (<sup>1</sup>KU-KIST Graduate School of Converging Science and Technology, Korea University, Seoul 02841, Republic of Korea, <sup>2</sup>Applied Quantum Composites Research Center, Institute of Advanced Composite Materials, Korea Institute of Science and Technology, Jeollabuk-do 55324, Republic of Korea)

**P1-ap.104**

**Alcohol based solvent vapor annealing of the poly(3,4-ethylene dioxythiophene):poly(styrenesulfonate) layer for improving the performance of inverted perovskite solar cells** / LIU Guanchen<sup>1</sup>, XIE Xiaoyin<sup>2,3</sup>, LIU Zhihai<sup>4,5</sup>, LEE Eun-Cheol<sup>\*5,6</sup> (<sup>1</sup>Department of Material Science and Technology, Jilin Institute of Chemical Technology, <sup>2</sup>Department of Chemical Technology, Jilin Institute of Chemical Technology, <sup>3</sup>Institute of Theoretical Chemistry, Jilin University, <sup>4</sup>Department of Bio-Nano Technology, Gachon University, <sup>5</sup>Gachon Bio-Nano Research Institute, Gachon University, <sup>6</sup>Department of Nano-Physics, Gachon University)

**P1-ap.105**

**A novel structure for Planer Lead Halide Perovskite Solar Cells with better stability, performance and flexibility** / XU Chongyang<sup>1,3</sup>, LIU Zhihai<sup>2,3</sup>, LEE Eun-Cheol<sup>\*1,3</sup> (<sup>1</sup>Department of Nano-Physics, Gachon University, <sup>2</sup>Department of Bio-Nano Technology, Gachon University, <sup>3</sup>Gachon Bio-Nano Research Institute, Gachon University)

**P1-ap.106**

**Improving the performance of lead acetate based perovskite solar cells by using dimethylsulfoxide** / LIU Yawen<sup>1,3</sup>, LIU Zhihai<sup>2,3</sup>, LEE

Hanging posters: 2017. 10.25 Wednesday 13:00 – 10.26 Thursday 12:00

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**P1-ap.201**

**A label-free electrochemical impedimetric DNA biosensor for fast-response detection of mutation** / JIANG Huaide<sup>1,2</sup>, LEE Eun-Cheol<sup>\*1,2</sup> (<sup>1</sup>Department of Nano-Physics, Gachon University, <sup>2</sup>Gachon Bio-Nano Research Institute, Gachon University)

**P1-ap.202**

**Monitoring bacterial growth using aptamer-functionalized capacitive sensor.** / JO Namgyeong<sup>1</sup>, LEE Sun-Mi<sup>2</sup>, YOO Kyung-Hwa<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Yonsei University, <sup>2</sup>Nanomaterial Graduate Program, Yonsei University)

**P1-ap.203**

**Neuronal signal analysis in using polypyrrole coated multi-wall carbon nanotube multi-electrode array** / BAE Yonghee<sup>1</sup>, LEE Kyo-Seok<sup>1</sup>, LEE Sun-Mi<sup>2</sup>, YOO Kyung-Hwa<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Yonsei University, <sup>2</sup>Graduated Program for Nanomedical Science and Technology, Yonsei University)

**P1-ap.204**

**방사광 X-선 마이크로 단층촬영을 이용한 쥐 눈의 3차원 구조 분석 / 이세희<sup>1</sup>, 김기홍<sup>\*1</sup>** (<sup>1</sup>대구가톨릭대학교, 안경광학과)

**P1-ap.205**

**집게형 맥진기로 측정한 수축기 시간으로 비가압 혈압 공식 도출 연구** / 김수희<sup>1</sup>, 정재한<sup>1</sup>, 이동진<sup>2</sup>, 이상석<sup>\*1</sup> (<sup>1</sup>상지대학교, 한방의공학과, <sup>2</sup>대전과학기술대학교, 의료기기과)

**P1-ap.206**

**Theoretical study on effect of polarization-dependent loss on degree of polarization in fiber-optic network with polarization mode dispersion and its compensator** / HAN Ki Ho<sup>\*1</sup> (<sup>1</sup>Department of Optical Engineering, Kongju National University)

**P1-ap.207**

**Measurement of OSNR based on analysis of RF noise and optical power in optical fiber communication system** / HAN Ki Ho<sup>\*1</sup> (<sup>1</sup>Department of Optical Engineering, Kongju National University)

P1-ap.208

**Spin-orbit engineered resonant second harmonic generation of artificially stacked Van der Waals multilayer** / LE Chinh Tam<sup>1</sup>, FARMAN Ullah<sup>1</sup>, ZEESHAN Tahir<sup>1</sup>, JANG Joon Ik<sup>2</sup>, KIM Yong Soo<sup>\*1</sup>

(<sup>1</sup>Department of Physics and Energy Harvest-Storage Research Center (EHSRC), Univeristy of Ulsan, <sup>2</sup>Department of Physics, Sogang University)

**P1-ap.3** Applied physics: Advanced materials syntheses and characterizations  
포스터 발표

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00

Presentation: 2017.10.25 Wednesday 18:00-19:30

Place: Exhibition Hall

P1-ap.301

**Tunable Conductive Nanomesh-based Pressure Sensors with High Sensitivity and Wide Operation Range for Wearable Health Monitoring Applications** / CHANG Hochan<sup>1</sup>, YI Hyunjung<sup>\*1</sup> (<sup>1</sup>Post-Silicon Semiconductor Institute, Korea Institute of Science and Technology)

P1-ap.302

**Direct molecular-scale observation of C70 amorphous structure and single-molecule dynamics on graphene** / CHOE Jeongheon<sup>1</sup>, LEE Yangjin<sup>1</sup>, LEE Sungwoo<sup>2</sup>, PARK Jungwon<sup>3</sup>, LEE Gun-Do<sup>4</sup>, KIM Chae Un<sup>1</sup>, KIM Kwanpyo<sup>\*1</sup> (<sup>1</sup>Department of Physics, Ulsan National Institute of Science and Technology, <sup>2</sup>Department of Physics, Seoul National University, <sup>3</sup>Department of Chemical Engineering, Seoul National University, <sup>4</sup>Department of Material Science and Engineering, Seoul National University)

P1-ap.303

**An ultraviolet converting blue Ca3Y2(SiO4)3:Ce3+ phosphors for white light emitting diodes** / RYU Jiseung<sup>2</sup>, LEE Yu Jin<sup>1</sup>, LEE Woo Cheol<sup>1</sup>, YANG Hyun Kyoung<sup>\*1,2</sup> (<sup>1</sup>Department of LED Convergence Engineering, Pukyong National University, <sup>2</sup>Interdisciplinary Program of LED and Solid State Lighting Engineering, Pukyong National University)

P1-ap.304

**Homogeneous sphere, square prism and hexagonal rod Gd2O3:Eu3+ for improving efficiency of photoluminescence and photocatalysis** / PARK Sung Jun<sup>1</sup>, HONG Woo Tae<sup>1</sup>, YANG Hyun Kyoung<sup>\*1,2</sup> (<sup>1</sup>Interdisciplinary Program of LED and Solid State Lighting Engineering, Pukyong National University, <sup>2</sup>Department of LED convergence engineering, Pukyong National University)

P1-ap.305

**열처리 분위기에 따른 ZnO Nanowire/Nano Cellulose 복합체의 I-V 특성 비교** / 박지홍<sup>1</sup>, 심인보<sup>\*1</sup> (<sup>1</sup>국민대학교 과학기술대학, 나노전자물리학과)

P1-ap.306

**Oriental Epitaxy of AgCN Microwires on Various Hexagonal Two-Dimensional Crystals** / LEE Yangjin<sup>1</sup>, KOO Jahyun<sup>2</sup>, YOON Jun-Yeong<sup>1</sup>, KIM Kangwon<sup>3</sup>, CHOE Jeongheon<sup>1</sup>, JANG Jeongsu<sup>1</sup>, HWANG Jun Yeon<sup>6</sup>, JEONG Hu Young<sup>4</sup>, KIM Yong Soo<sup>5</sup>, CHEONG Hyeonsik<sup>3</sup>, RUOFF Rodeny S. <sup>7</sup>, LEE Hoonkyung<sup>2</sup>, KIM Kwanpyo<sup>\*1</sup> (<sup>1</sup>Department of Physics, Ulsan National Institute

of Science and Technology (UNIST), <sup>2</sup>Department of Physics, Konkuk University, <sup>3</sup>Department of Physic, Sogang University, <sup>4</sup>UNIST Central Research Facilities (UCRF), Ulsan National Institute of Science and Technology (UNIST), <sup>5</sup>Department of Physics, University of Ulsan, <sup>6</sup>Institute of Advanced Composite Materials, Korea Institute of Science and Technology (KIST), <sup>7</sup>Department of Chemistry, Ulsan National Institute of Science and Technology (UNIST))

#### P1-ap.307

**실리카 나노 입자의 선택적 패턴 성장** / YOON Ji-Hui<sup>1</sup>, KIM Ki-Chul<sup>1\*</sup>  
(<sup>1</sup>Department of Advanced Materials Science and Engineering, Mokwon University)

#### P1-ap.308

**Quantitative analysis of Na<sup>+</sup> ion current emitted from beta-eucryptite like material** / CHOI Dae Sun<sup>1</sup> (<sup>1</sup>Department of Physics, Kangwon National University)

#### P1-ap.309

**Photoluminescence studies on Zn<sub>0.5</sub>Mn<sub>0.5</sub>Te single crystal grown by Bridgman technique** / DANIEL D Joseph<sup>1</sup>, KIM Hong Joo<sup>1\*</sup> (<sup>1</sup>Physics, Kyungpook National University)

#### P1-ap.310

**Cu<sub>2</sub>ZnSnS<sub>4</sub>/TiO<sub>2</sub> 이종접합 나노선 제조 및 광전기화학 특성** / 김솔아<sup>1</sup>, 김미리<sup>1</sup>, 김의태<sup>1\*</sup> (<sup>1</sup>충남대학교, 신소재공학과)

#### P1-ap.311

**망막질환 치료를 위한 Alginate- Ferrogel 약물이식체의 기공사이즈에 따른 물성 비교** / 김기홍<sup>1</sup>, 정혜리<sup>1</sup> (<sup>1</sup>대구가톨릭대학교, 안경광학과)

#### P1-ap.312

**The tetravalent manganese activated in SrLaMgTaO<sub>6</sub> for warm LED applications** / KIM Dorim<sup>1</sup>, PARK Sungwook<sup>1</sup>, CHOI Byungchun<sup>1</sup>, PARK Sungheum<sup>1</sup>, JEONG Junghyun<sup>1\*</sup>, KIM Junghwan<sup>2</sup> (<sup>1</sup>Department of Physics, Pukyong National University, <sup>2</sup>Department of Physics, Dongeui University)

#### P1-ap.313

**Crystal Structure, Electronic Structure, and Photoluminescence Properties of KLaMgWO<sub>6</sub>:Eu<sup>3+</sup> as Red Phosphors for Light-emitting Diode Applications** / RAN Weiguang<sup>1</sup>, PARK Sungheum<sup>1</sup>, MOON Byungkee<sup>1</sup>, CHOI Byungchun<sup>1</sup>, JEONG Junghyun<sup>1\*</sup>, KIM Junghwan<sup>2</sup> (<sup>1</sup>Department of Physics, Pukyong National University, <sup>2</sup>Department of Physics, Dongeui University)

#### P1-ap.314

**Enhanced luminescence Properties of Zn<sub>2</sub>P<sub>2</sub>O<sub>7</sub>:Eu<sup>3+</sup> Phosphors**

**through different methods** / XUE Junpeng<sup>1</sup>, NOH Hyeonmi<sup>1</sup>, CHOI Byungchun<sup>1</sup>, PARK Sungheum<sup>1</sup>, JEONG Junghyun<sup>1\*</sup>, KIM Junghwan<sup>2</sup> (<sup>1</sup>Department of Physics, Pukyong National University, <sup>2</sup>Department of Physics, Dongeui University)

#### P1-ap.315

**Effect of doping La<sup>3+</sup> ions on the performance and characteristics of Eu<sup>2+</sup> ions in novel Sr<sub>3</sub>CeNa(PO<sub>4</sub>)<sub>2</sub>SiO<sub>4</sub> phosphors** / GUO Yue<sup>1</sup>, PARK Sungheum<sup>1</sup>, CHOI Byungchun<sup>1</sup>, MOON Byungkee<sup>1</sup>, JEONG Junghyun<sup>1\*</sup>, KIM Junghwan<sup>2</sup> (<sup>1</sup>Department of Physics, Pukyong National University, <sup>2</sup>Department of Physics, Dongeui University)

#### P1-ap.316

**Direct Growth of Ultra-Thin Graphene Oxide Film using a Novel Electron-beam Evaporation System** / HWANG Jaeseok<sup>1</sup>, KANG Daejoon<sup>1,2</sup> (<sup>1</sup>Department of Energy Science, Sungkyunkwan University, <sup>2</sup>Department of Physics, Sungkyunkwan University)

#### P1-ap.317

**Annealing effects on solution-processed p-type CuxO and its performance as channel layer in TFT and VO<sub>2</sub> gated FET devices** / ABBAS Muhammad Sabbtain<sup>1</sup>, KANG Daejoon<sup>1\*</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University)

#### P1-ap.318

**가스 센서용 SnO<sub>2</sub> 나노구조물의 직접 성장** / 김종일<sup>1</sup>, 김하은<sup>1</sup>, 박주희<sup>1</sup>, 김기철<sup>1\*</sup> (<sup>1</sup>목원대학교, 신소재 화학공학과)

#### P1-ap.319

**물 분산이 용이한 자성 나노입자(Magnetite)의 합성** / 박주희<sup>1</sup>, 김기철<sup>1\*</sup> (<sup>1</sup>목원대학교, 신소재화학공학과)

#### [P1-ap.4] Applied physics: Surface, interface and thin films

Hanging posters: 2017. 10. 25 Wednesday 13:00 - 10.26 Thursday 12:00

Presentation : 2017. 10. 25. Wednesday 18:00-19:30

Place : Exhibition Hall

#### P1-ap.401

**수중 에탄올 함량에 의한 다공성 실리온 간섭색 변화** / 박가연<sup>1</sup>, 정운오<sup>1</sup>, 최다해<sup>1</sup>, 김소희<sup>1</sup>, 김하람<sup>1</sup>, 김영유<sup>1</sup>, 이기원<sup>1\*</sup> (<sup>1</sup>공주대학교, 물리학과)

#### P1-ap.402

**진동하는 알루미늄 평행판의 진동수 응답특성** / 정운오<sup>1</sup>, 주영규<sup>1</sup>, 김소희<sup>1</sup>, 김하람<sup>1</sup>, 박가연<sup>1</sup>, 최다해<sup>1</sup>, 김영유<sup>1</sup>, 이기원<sup>1\*</sup> (<sup>1</sup>공주대학교, 물리학과)

P1-ap.403

**Gamma-ray irradiation effects on ferroelectric domain switching dynamics in epitaxial  $\text{Pb}(\text{Zr}_{0.52}\text{Ti}_{0.48})\text{O}_3$  thin films** / 조삼연<sup>1</sup>, 부상돈<sup>1</sup>  
(<sup>1</sup> 전북대학교 물리학과)

P1-ap.404

**RF magnetron sputtering에 의한 산화아연 박막의 성장 및 표면형상** / 이봉주<sup>1</sup>, 이명복<sup>2</sup> (<sup>1</sup>조선대학교, 물리학과, <sup>2</sup>광주대학교, 산업기술경영학부)

P1-ap.405

**Ferroelectric polarization effect for graphene/PMN-PT hybrid structure** / LEE Gwanmu<sup>1</sup>, KANG Haeyong<sup>1</sup>, SUH Dongseok<sup>1</sup> (<sup>1</sup>Department of Energy Science, Sungkyunkwan University)

P1-ap.406

**The study of surface Characterization in  $\text{TiO}_2$  Films Prepared by Ammonia Added anodizing about Titanium alloy.** / YU Jae-In<sup>1</sup>, KIM Ki-Hong<sup>2</sup>, KIM Geun-Hyeong<sup>3</sup> (<sup>1</sup>Department of surface treatment, DHU Non-Ferrous Surface Treatment Center, <sup>2</sup>Department of optometry & vision science, Daegu Catholic University, <sup>3</sup>Department of physics, Yeungnam University)

P1-ap.407

**$\text{MgF}_2$  기판 위에 제작된  $\text{VO}_2$  박막의 결정 방향에 따른 금속-부도체 전이 특성** / 안승휘<sup>1</sup>, 산토스 기미르<sup>1</sup>, 이영진<sup>1</sup>, 도중화<sup>1</sup> (<sup>1</sup>경북대학교, 물리학과)

P1-ap.408

**Thermochromic properties of  $\text{VO}_2$  film on transparent conductive oxide glass depending on sputtering conditions** / CHOI Dong Soo<sup>1</sup>, KANG So Hee<sup>2</sup> (<sup>1</sup>Department of Materials Physics, Dong-A University, <sup>2</sup>Research and Development Team, ALUENC Co., LTD)

P1-ap.409

**Study on physical properties of Fe-oxides  $\alpha\text{-Fe}_2\text{O}_3$  and  $\gamma\text{-Fe}_2\text{O}_3$  films** / KIM Jiwoong<sup>1</sup>, LEE Dooyong<sup>1</sup>, SONG Sehwan<sup>1</sup>, PARK Sungkyun<sup>1</sup>  
(<sup>1</sup>Department of Physics, Pusan National University)

P1-ap.410

**AZ91D에서 플라스마 표면처리에 관한 표면 물성 연구** / 유재용<sup>1</sup>, 고훈<sup>1</sup>, 김진희<sup>1</sup>, 김철<sup>1</sup>, 윤재곤<sup>1</sup>, 유재인<sup>2</sup>, 김기홍<sup>3</sup> ((주)테크트랜스, 기업부설연구소, <sup>2</sup>DHU 비철금속 표면처리 센터, 표면물성연구부, <sup>3</sup>대구가톨릭대학교, 안경광학과)

P1-ap.411

**플라스마 표면처리 된 AZ91D합금의 Annealing 효과 연구** / 고훈<sup>1</sup>, 유재용<sup>1</sup>, 이미경<sup>1</sup>, 하동현<sup>1</sup>, 천학범<sup>1</sup>, 하준석<sup>1</sup>, 이형택<sup>1</sup> (기업부설연구소 (주)테크트랜스)

P1-ap.412

**Enhanced  $\text{NO}_2$  gas sensitivity in hydrogenated graphene gas sensor** / KIM Myeongjin<sup>1</sup>, KIM Sung hyun<sup>1</sup>, YI Sum-Gyun<sup>1</sup>, YOO Kyung-Hwa<sup>1</sup> (<sup>1</sup>Department of Physics, Yonsei University)

P1-ap.413

**RBS 측정을 이용한 다층박막의 두께 및 조성 분석법** / 석재권<sup>1</sup>, 김민영<sup>1</sup>, 하준목<sup>1</sup>, 이승호<sup>1</sup>, 김계령<sup>1</sup>, 조용섭<sup>1</sup> (한국원자력연구원, 양성자가속기연구센터)

P1-ap.414

**Tunable dielectric properties of  $\text{SrMnO}_3$  thin films via in-situ strain engineering** / SON Yeong Jun<sup>1</sup>, LEE Sung Su<sup>1</sup>, HWANG Seung Hyun<sup>1</sup>, IM Jiseok<sup>2</sup>, BARK Chung Wung<sup>3</sup>, JO Ji Young<sup>1</sup> (<sup>1</sup>Materials Science and Engineering, Gwangju Institute of Science and Technology, <sup>2</sup>Physics and Photon Science, Gwangju Institute of Science and Technology, <sup>3</sup>Electrical Engineering, Gachon University)

P1-ap.415

**Effect of Annealing Process on the Interface of Organic Light Emitting Diodes** / 이승준<sup>1</sup>, 안동아<sup>2</sup>, 이동현<sup>2</sup>, 김혜경<sup>3</sup>, 손현경<sup>5</sup>, 이태걸<sup>5</sup>, 박성균<sup>3,4</sup>, 서민철<sup>2</sup>, 박용섭<sup>1</sup> (<sup>1</sup>경희대학교 물리학과, <sup>2</sup>경희대학교, 정보디스플레이학과, <sup>3</sup>부산대학교, 공동실험실습관, <sup>4</sup>부산대학교, 물리학과, <sup>5</sup>한국표준과학연구원, 나노바이오측정센터)

P1-ap.416

**Physical Characterizations of Al-doped  $\text{Zn}_{1-x}\text{Li}_x\text{O}$  Thin Films by using the Sol-gel Spin Coating Methods** / JUN Byeongeog<sup>1</sup>, PARK Sungju<sup>1</sup>, KIM Dongin<sup>1</sup>, Hur Wonseok<sup>1</sup>, KIM Hajin<sup>1</sup>, LEE Jong-Rim<sup>1</sup> (<sup>1</sup>Department of Physics and Earth Science, Korea Science Academy of Korea Advanced Institute of Science and Technology)

P1-ap.417

**Photoluminescence property of  $\text{SrLaMgTaO}_6$  double perovskite bulk and thin film** / OH Juhyun<sup>1</sup>, KIM Dorim<sup>1</sup>, JEONG Junghyun<sup>1</sup>, BAE Jongseong<sup>2</sup>, KIM Heejin<sup>3</sup>, KIM Junghwan<sup>4</sup>, KIM Jungho<sup>5</sup>, CHANG Seohyoung<sup>6</sup> (<sup>1</sup>Department of Physics, Pukyong National University, <sup>2</sup>Busan Center, Korea Basic Science Institute, <sup>3</sup>Electron Microscopy Research Center, Korea Basic Science Institute, <sup>4</sup>Department of Physics, Dongeui University, <sup>5</sup>Advanced Photon Source, Argonne National Laboratory, <sup>6</sup>Department of Physics, Chung-Ang University)

P1-ap.418

**Graphene-based supercapacitor performance was improved with a simple process involving water** / 송대훈<sup>1</sup>, 강영호<sup>1</sup> (전남대학교 물리교육과)



P1-ap.419

**Atomically flat LaAlO<sub>3</sub> surfaces through deionized water etching**  
/ KIM Jeong Rae<sup>1,2</sup>, KIM Yoonkoo<sup>1,3</sup>, SHIN Yeong Jae<sup>1,2</sup>, WANG Lingfei<sup>1,2</sup>,  
LEE Daesu<sup>1,2</sup>, KIM Tae Heon<sup>4</sup>, KIM Miyoung<sup>1,3</sup>, NOH Tae Won<sup>\*1,2</sup> (<sup>1</sup>Center for  
Correlated Electron Systems, Institute for Basic Science, <sup>2</sup>Department of Physics  
and Astronomy, Seoul National University, <sup>3</sup>Department of Material Science and  
Engineering, Seoul National University, <sup>4</sup>Department of Physics, University of  
Ulsan)

P1-at

Atomic & Molecular Physics  
포스터 발표

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00

Presentation: 2017.10.25 Wednesday 18:00-19:30

Place: Exhibition Hall

P1-at.001

**Attosecond counter rotating wave effect in a highly excited atom driven by strong fields** / ANAND M<sup>1,2</sup>, HEO Jaeuk<sup>1,2</sup>, PABST Stefan<sup>3</sup>, KWON Ojoon<sup>1,2</sup>, KIM Dong Eon<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Center for Attosecond Science and Technology, POSTECH, <sup>2</sup>Max Planck Center for Attosecond Science, Max Planck POSTECH/KOREA Res. Init., <sup>3</sup>Harvard-Smithsonian Center for Astrophysics, ITAMP)

P1-at.002

**Progress of atom spin gyroscope in ADD** / 임신혁<sup>1</sup>, 김재일<sup>1</sup>, 이상경<sup>1</sup>, 김태현<sup>1</sup>, 심규민<sup>1</sup> (<sup>1</sup>국방과학연구소, 첨단기술연구센터)

P1-at.003

**Gold Coating Method on an Aluminum-Based Surface Ion Trap Chip to Suppress Accumulation of Laser-Induced Stray Charges** / JUNG Changhyun<sup>1</sup>, HONG Seokjun<sup>1</sup>, KWON Yeong-Da<sup>2</sup>, LEE Minjae<sup>1</sup>, PARK Yunjae<sup>1</sup>, JEONG Junho<sup>1</sup>, KIM Taehyun<sup>2</sup>, CHO Dong-II "Dan"<sup>\*1</sup> (<sup>1</sup>ASRI/ISRC and Department of Electrical and Computer Engineering, Seoul National University, <sup>2</sup>Quantum Technology Lab., SK Telecom)

P1-at.004

**Theoretical analysis of high-order harmonic generation in solid under inhomogeneous laser fields** / 변창우<sup>1</sup>, 이민호<sup>1</sup>, 최낙렬<sup>1</sup> (<sup>1</sup>금오공과대학교, 교양교직과정부)

P1-at.005

**Ultrafast control of single-atom qubit in tweezer trap array** / SONG Yunheung<sup>1</sup>, LEE Han-gyeol<sup>1</sup>, KIM Hyosub<sup>1</sup>, MOON Geol<sup>1</sup>, AHN Jaewook<sup>\*1</sup> (<sup>1</sup>Department of Physics, KAIST)

P1-at.006

**Rapid and robust qubit probability inversion using hybrid adiabatic-nonadiabatic interaction** / LEE Han-gyeol<sup>1</sup>, SONG Yunheung<sup>1</sup>, AHN Jaewook<sup>\*1</sup> (<sup>1</sup>Department of Physics, KAIST)

P1-at.007

**Storage and retrieval of entanglement states in Rydberg atom chains** / LEE Woojun<sup>1</sup>, MOON Geol<sup>1</sup>, KIM Hyosub<sup>1</sup>, AHN Jaewook<sup>\*1</sup> (<sup>1</sup>Department of Physics, KAIST)

P1  
포  
스  
터  
세  
션

P1-at,008

광자 포집 효율 증대를 위한 다이아몬드 나노 기둥 안테나 제작 / 전승우<sup>1</sup>, 한상욱<sup>1</sup>, 김용수<sup>1</sup>, 조영욱<sup>1</sup>, 이상윤<sup>\*1</sup>, 문성욱<sup>1</sup> (<sup>1</sup>한국과학기술연구원, 양자정보연구단)

P1-at,009

Polarization dependence in velocity selective optical pumping spectroscopy for 85Rb atoms / 홍하은<sup>1</sup>, 노홍렬<sup>\*1</sup>, JADOON Zeeshan<sup>2</sup>, 김진태<sup>2</sup> (<sup>1</sup>전남대학교, 물리학과, <sup>2</sup>조선대학교, 광기술공학과)

P1-bp

Biological physics  
포스터 발표

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00

Presentation: 2017.10.25 Wednesday 18:00-19:30

Place: Exhibition Hall

P1-bp,001

Superresolution fluorescence microscopy for 3D reconstruction of thick samples / PARK Sangjun<sup>1</sup>, KANG Wooyoung<sup>1</sup>, KWON Yeong-Dae<sup>2</sup>, SHIM Jaehoon<sup>3</sup>, KIM Siyong<sup>3</sup>, KAANG Bong-Kiun<sup>3</sup>, HOHNG Sungchul<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Research Institute of Basic Sciences, Seoul National University, <sup>3</sup>School of Biological Sciences, Seoul National University)

P1-bp,002

Super-resolved Expansion Microscopy / LEE Chan-Young<sup>1,2</sup>, KIM Doyeon<sup>1,2</sup>, LEE Jooyong<sup>1,2</sup>, JANG Soohyun<sup>1,2</sup>, KWON Jiwoong<sup>1,2</sup>, SHIM Sang-Hee<sup>\*1,2</sup> (<sup>1</sup>Center for Molecular Spectroscopy and Dynamics, Institute for Basic Science (IBS), <sup>2</sup>Department of Chemistry, Korea University)

P1-bp,003

A New Photoswitchable Fluorescence Protein for Long-term Live-cell Super-resolution Imaging of Various Subcellular Structure / KWON Jiwoong<sup>1,2</sup>, PARK Jong-Seok<sup>3</sup>, KANG Min Su<sup>1,2</sup>, KIM Gyeong Tae<sup>4</sup>, JANG Soohyun<sup>1,2</sup>, LEE Hyun-Woo<sup>3</sup>, SHIM Sang-Hee<sup>\*1,2</sup> (<sup>1</sup>Center for Molecular Spectroscopy and Dynamics, IBS, Korea University, <sup>2</sup>Department of Chemistry, Korea University, <sup>3</sup>Department of Chemistry, UNIST, <sup>4</sup>Biomedical Engineering, UNIST)

P1-bp,004

HybTrack: A hybrid single-particle tracking software using manual and automatic detection of dim signals / LEE Byung Hun<sup>1</sup>, PARK Hye Yoon<sup>\*1,2</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Institute of Applied Physics, Seoul National University)

P1-bp,005

polarization-selective interferometric detection of nano objects / 문현민<sup>1,2</sup>, 이일범<sup>1,2</sup>, 주중현<sup>1,3</sup>, 홍석철<sup>\*1,2</sup>, 조민행<sup>1,3</sup> (<sup>1</sup>Center for Molecular Spectroscopy and Dynamics, Institute for Basic Science (IBS), <sup>2</sup>Department of Physics, Korea University, <sup>3</sup>Department of Chemistry, Korea University)

P1-bp,006

The Use of Single Molecule FRET to Identify the Mechanism of Rho-dependent termination / SONG Eunho<sup>4</sup>, UHM Heesoo<sup>1,2,3</sup>, HOHNG Sungchul<sup>\*1,2,3,4</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University,

<sup>2</sup>Institute of Applied Physics, Seoul National University, <sup>3</sup>National Center of Creative Research initiatives, Seoul National University, <sup>4</sup>Interdisciplinary Graduate Program in Biophysics and Chemical Biology, Seoul National University)

#### P1-bp.007

**Single Molecule FRET studies on Difference between monomeric/dimeric state of Chd1 on nucleosome** / KIRK Jaewon<sup>1</sup>, LEE Juyeon<sup>1</sup>, HOHNG Sungchul<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University,)

#### P1-bp.008

**Single-molecule observation of co-transcriptional folding in TPP riboswitch regulation** / UHM Heesoo<sup>1,2,3</sup>, KANG Wooyoung<sup>1,2,3</sup>, HA Kook Sun<sup>4</sup>, KANG Changwon<sup>5</sup>, HOHNG Sungchul<sup>\*1,2,3</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Institute of Applied Physics, Seoul National University, <sup>3</sup>National Center of Creative Research Initiatives, Seoul National University, <sup>4</sup>Department of Life Science, The University of Suwon, <sup>5</sup>Department of Biological Sciences, Korea Advanced Institute of Science and Technology)

#### P1-bp.009

**Replication fork regression by Rad5** / SHIN Soochul<sup>1</sup>, HOHNG Sungchul<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

#### P1-bp.010

**Single Molecule Study on Formation and Regulation of R-loop** / LIM Gunhyoung<sup>1</sup>, UHM Heesoo<sup>1</sup>, HOHNG Sungchul<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

#### P1-bp.011

**Single-molecule Mechanistic Studies on DNA Proofreading by DNA Polymerase** / PARK Jonghyun<sup>1</sup>, JEON Yongmoon<sup>1</sup>, LEE Ryanggeun<sup>1</sup>, LEE Jong-Bong<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, POSTECH, <sup>2</sup>School of Interdisciplinary Bioscience and Bioengineering, POSTECH)

#### P1-bp.012

**DNA sequence-dependent nucleosome remodeling by Chd1** / JO Yongseok<sup>1</sup>, LEE Jongjin<sup>1</sup>, HOHNG Sungchul<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

#### P1-bp.013

**Microscopic mechanism of R-loop expansion for Cas9 nuclease activation** / 성기원<sup>1</sup>, 임영빈<sup>2</sup>, 박진호<sup>1</sup>, 박소영<sup>1</sup>, 배상수<sup>3</sup>, 김성근<sup>\*1</sup> (<sup>1</sup>서울대학교, 화학부, <sup>2</sup>Stanford University, Department of Bioengineering, <sup>3</sup>한양대학교, 화학과)

#### P1-bp.014

**Diffusion analysis of PCNA interacting with p15PAF on DNA** / KIM

Daehyung<sup>1</sup>, LEE Jong-Bong<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, POSTECH, <sup>2</sup>School of Interdisciplinary Bioscience & Bioengineering, POSTECH)

#### P1-bp.015

**A single-molecule dissection of DNA recognition and cleavage by CRISPR-Cas12a (Cpf1) endonuclease** / CHOI Youhee<sup>1</sup>, JANG Yunsu<sup>1</sup>, LEE Sanghwa<sup>\*1</sup> (<sup>1</sup>Advance Photonics Research Institute, Gwangju Institute of Science and Technology)

#### P1-bp.016

**Single molecule study on the crosstalk between H2B ubiquitylation and H3K79 methylations by Dot1** / LEE Ju Yeon<sup>1</sup>, JEON Jongcheol<sup>2</sup>, KIM Jaehoon<sup>2</sup>, PARK Hee-Sung<sup>2</sup>, HOHNG Sungchul<sup>\*1</sup> (<sup>1</sup>Physics and Astronomy, Seoul National University, <sup>2</sup>Biological Sciences, Korea Advanced Institute of Science and Technology)

#### P1-bp.017

**Dynamics of transcription and transport of labeled-endogenous Arc mRNA in live neurons** / MOON Hyungseok<sup>1</sup>, DAS Sulagna<sup>2</sup>, SINGER Robert H<sup>2,3</sup>, PARK Hye Yoon<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University, <sup>2</sup>Department of Anatomy and Structural Biology, Albert Einstein College of Medicine, <sup>3</sup>Janelia Research Campus, Howard Hughes Medical Institute)

#### P1-bp.018

**Revealing the Role of Histone Tails in Controlling Nucleosome Assembly and Chromatin Compaction** / LEE Hongsoo<sup>1</sup>, KIM Hajin<sup>\*1</sup> (<sup>1</sup>Department of Biomedical Engineering, Ulsan National Institute of Science and Technology)

#### P1-bp.019

**Synapse-specific localization of beta-actin mRNA studied by two-photon uncaging** / SHIM Jae Youn<sup>1</sup>, LEE Byung Hun<sup>1</sup>, MOON Hyung Seok<sup>1</sup>, PARK Hye Yoon<sup>\*1</sup> (<sup>1</sup>Department of Physics, Seoul National University)

#### P1-bp.020

**Disordered dynamics of bivalent protein Pin1 on its peptide substrate** / 조혜원<sup>1</sup>, KAWASAKI Ryosuke<sup>2</sup>, TATE Shinichi<sup>2</sup>, 김하진<sup>\*2</sup> (<sup>1</sup>School of Life Science, Ulsan National Institute of Science and Technology, <sup>2</sup>Graduate school of Science, University of Hiroshima)

#### P1-bp.021

**Binding mode and degradation activity of ribonuclease H on the RNA/DNA hybrid substrate by single molecule FRET** / LEE Hyun Jee<sup>1</sup>, LEE Gwangrog<sup>\*1</sup> (<sup>1</sup>School of life Sciences, Gwangju Institute of Science and Technology)

P1-bp.022

**The Characterization of Cooperative Unwinding by SARS-CoV nsp13 Helicase** / YU Jeongmin<sup>1</sup>, LEE Gwangrog<sup>\*1</sup> (<sup>1</sup>School of life Sciences, Gwangju Institute of Science and Technology)

P1-bp.023

**Physical Coupling within an Enzyme-Substrate Complex Governs Enzymatic Activity During DNA Degradation Reaction** / YOO Jungmin<sup>1</sup>, LEE Gwangrog<sup>\*1</sup> (<sup>1</sup>School of life Sciences, Gwangju Institute of Science and Technology)

P1-bp.024

**Mechanism of mismatch recognition of phi29 DNA polymerase revealed by single-molecule FRET** / VO, THI MINH HOA<sup>1</sup>, LEE Gwangrog<sup>\*1</sup> (<sup>1</sup>School of life Sciences, Gwangju Institute of Science and Technology)

P1-bp.025

**Topoisomerase II selects its target sites by using enzyme induced flexibility of DNA** / 장윤수<sup>1</sup>, 이상화<sup>\*1</sup> (<sup>1</sup>광주과학기술원, 고등광기술연구소)

P1-bp.026

**Study of cytotoxicity of graphene nanosheets to blood-coagulation protein using molecular dynamics simulation of** / JO Byeong Cheol<sup>1</sup>, YOON Hyun Jung<sup>1</sup>, OK Myoung-Ryul<sup>2</sup>, WU Sangwook<sup>\*1</sup> (<sup>1</sup>Department of Physics, Pukyong National University, <sup>2</sup>Center for Biomaterials, Korea Institute of Science & Technology)

P1-bp.027

**Stimulus-dependent transcriptional bursts in hippocampal neurons revealed by long-term live-cell imaging** / PARK Sung Young<sup>1</sup>, UHM Heesoo<sup>1</sup>, LEE Byung Hun<sup>1</sup>, HOHNG Sungchul<sup>1</sup>, PARK Hye Yoon<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

P1-bp.028

**A Simulation Study for the Feasibility of the usage of Heavier Ions in Charged Particle Therapy** / LIU Dong<sup>1</sup>, WOO Jong-Kwan<sup>\*1</sup> (<sup>1</sup>Physics, Jeju National University)

P1-bp.029

**Obstructed diffusion in a fractal globule and in other random geometries** / KIM Yeonghoon<sup>1</sup>, LIZANA Ludvig<sup>2</sup>, JEON Jae-Hyung<sup>\*1</sup> (<sup>1</sup>Department of Physics, POSTECH, <sup>2</sup>Department of Physics, Umeå University)

P1-bp.030

**Geometrical Analysis for non-stereotactic image co-registration**

**with ImageMergeTM in LGP** / LIM Sahoe<sup>\*1</sup>, JUNG Shin<sup>1</sup> (<sup>1</sup>Department of Neurosurgery, Chonnam National University Hwasun Hospital)

P1-bp.031

**Numerical Study of solar radiation for PhoroBio Reactor** / 서진주<sup>1</sup>, 이철균<sup>2</sup>, 윤진희<sup>\*1</sup>, 김도완<sup>3</sup>, 김지훈<sup>4</sup> (<sup>1</sup>Department of Physics, Inha University, <sup>2</sup>Department of Biological Engineering, Inha University, <sup>3</sup>Department of Mathematics, Inha University, <sup>4</sup>Freshwater Biological Resources Culture Research of Division, Nakdonggang National Institute of Biological Resources)

P1-bp.032

**First passage dynamics of fractional Brownian motion with stochastic resetting: a computational study** / JOO Sungmin<sup>1</sup>, LIZANA Ludvig, JEON Jaehyung<sup>\*1</sup>, DURANG Xavier, LEE Sungmin<sup>4</sup> (<sup>1</sup>Department of Physics, POSTECH, <sup>2</sup>Department of Physics, Umea University, <sup>3</sup>Statistical Physics Physics, KIAS, <sup>4</sup>Energy Science, Sungkyunkwan University)

P1-bp.033

**Roadblock elimination by 1D Diffusion of DNA sliding clamps on DNA** / 양인호<sup>1</sup>, 이종봉<sup>\*1</sup> (<sup>1</sup>포항공과대학교, 물리학과)

P1-bp.034

**분자동력학 시뮬레이션을 이용한 세포 침투성 펩타이드 연구** / 최승호<sup>\*1</sup> (<sup>1</sup>DGIST, 충북합대대학 기초학부)

**P1-co.1** Condensed matter physics: Bio/Soft-condensed/Organic materials  
포스터 발표

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00  
Presentation: 2017.10.25 Wednesday 18:00-19:30 Place: Exhibition Hall

P1-co,101

**Angle-resolved light-scattering spectroscopy on single-crystalline lysozyme** / ASO Taro<sup>\*1</sup>, FUJII Yasuhiro<sup>1</sup>, KOREEDA Akitoshi<sup>1</sup>, NAKADA Toshitaka<sup>1</sup> (<sup>1</sup>Dept. of Phys. Sci., Ritsumeikan Univ., Japan)

P1-co,102

**Large enhancement of refractive index by iodine doping in a small molecule organic semiconductor Tetramethyltetraselenafulvalene** / KWON Seonho<sup>1</sup>, BAE Junwan<sup>1</sup>, LEE I. J.<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chonbuk National University)

**P1-co.2** Condensed matter physics: Computational physics  
포스터 발표

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00  
Presentation: 2017.10.25 Wednesday 18:00-19:30 Place: Exhibition Hall

P1-co,201

**Magnetic interactions in organic electrides : A first-principles study** / KIM Taekjung<sup>1</sup>, YOON Hongkee<sup>1</sup>, HAN Myung Joon<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology, <sup>2</sup>KAIST Institute for the NanoCentury, Korea Advanced Institute of Science and Technology)

P1-co,202

**Atomic neural network potentials for aluminum clusters and bulk phases** / KIM Sanghui<sup>1</sup>, KIM Hyunyoung<sup>1</sup>, KANG Joongoo<sup>\*1</sup> (<sup>1</sup>Department of Emerging Materials Science, DGIST)

P1-co,203

**Electron transmission and vibrational properties of carbon chain encapsulated within single-walled carbon nanotube** / KIM Taehyung<sup>1</sup>, KIM Husung<sup>1</sup>, KIM Yonghoon<sup>\*1</sup> (<sup>1</sup>Graduate school of EEWS, KAIST)

P1-co,204

**Topological and Transport properties of three dimensional Dirac semimetals** / AHN Kyo-Hoon<sup>1</sup>, LEE Kwan-Woo<sup>\*1,2</sup> (<sup>1</sup>Department of Applied Physics, Graduate School, Korea University, Sejong, <sup>2</sup>Division of Display and Semiconductor Physics, Korea University, Sejong)

P1-co,205

**Accurate Quantum Monte Carlo study for a Single Pt Atom on a Benzene Molecule** / 안정환<sup>1</sup>, 홍의균<sup>1</sup>, 권용경<sup>\*1</sup> (<sup>1</sup>Department of Physics, Konkuk University)

P1-co,206

**First principle study of phonon-induced opto-magnetism in FeBO<sub>3</sub>** / KIM Bumseop<sup>\*1</sup>, SHIN Dongbin<sup>1</sup>, PARK Noejung<sup>1</sup> (<sup>1</sup>Department of Physics, Ulsan National Institute of Science and Technology, Ulsan, 689-798 Korea)

P1-co,207

**Electronic and Transport Properties of Vertical Heterostructure of h-BN and Black Phosphorus** / 이수영<sup>1</sup>, 윤원석<sup>1</sup>, 이재동<sup>\*1</sup> (<sup>1</sup>Department of Emerging Materials Science, DGIST)

P1-co,208

**First principle calculation on Electronic structure and Polar**

**properties in Ga<sub>2</sub>O<sub>3</sub>** / KIM Juyeong<sup>1</sup>, KIM Bog.G<sup>\*1</sup> (<sup>1</sup>Department of Physics, Pusan National University)

P1-co,209

**The critical effect of metal atoms in mechanically interlocked supramolecular devices and the prevention using graphene** / 여현우<sup>1</sup>, 김효석<sup>1</sup>, 김용훈<sup>\*1</sup> (<sup>1</sup>KAIST, EEWS 대학원)

P1-co,210

**입방형 페로스카이트 BaOsO<sub>3</sub>의 격자 구조 안정성** / 김서진<sup>1</sup>, 이관우<sup>\*1</sup> (<sup>1</sup>고려대학교 세종캠퍼스, 디스플레이반도체물리학과)

P1-co,211

**Electrical and optical properties of amorphous CaAlO<sub>x</sub> thin films** / SIM So Hee<sup>1</sup>, KANG Kyeong Tae<sup>1</sup>, LEE Sang A<sup>1</sup>, LEE Sangyun<sup>1</sup>, ROH Seulki<sup>1</sup>, HIROKI Taniguchi<sup>2</sup>, PARK Tuson<sup>1</sup>, HWANG Jungseek<sup>1</sup>, CHOI Woo Seok<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University, <sup>2</sup>Department of Physics, Nagoya University)

**P1-co.3** Condensed matter physics: Dielectrics/Functional oxides  
포스터 발표

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00

Presentation: 2017.10.25 Wednesday 18:00-19:30

Place: Exhibition Hall

P1-co,301

**X-ray micro-diffraction study of structural changes in (1-x)(Bi<sub>0.5</sub>Na<sub>0.5</sub>)TiO<sub>3</sub>-xBaTiO<sub>3</sub> (x = 0, 2, 4 mol%)** / 박정현<sup>1</sup>, 위상원<sup>1</sup>, 정진석<sup>\*1</sup> (<sup>1</sup>Dept. of Physics, Soongsil University)

p1-co,302

**Structural and Electronic Properties of LaNiO<sub>3</sub>-x Films on SrTiO<sub>3</sub> (001) Substrates by Pulsed Laser Deposition** / KIM Donghun<sup>1</sup>, OH Juhyun<sup>1</sup>, JUNG Beonsung<sup>1</sup>, JEONG Junghyun<sup>\*1</sup>, BAE Jongseong<sup>2</sup>, KIM Heejin<sup>3</sup>, CHANG Seohyoung<sup>4</sup> (<sup>1</sup>Department of Physics, Pukyong National University, <sup>2</sup>Busan Center, Korea Basic Science Institute, <sup>3</sup>Electron Microscopy Research Center, Korea Basic Science Institute, <sup>4</sup>Department of Physics, Chung-Ang University)

p1-co,303

**Impedance Spectroscopy in Sr(Gd<sub>0.5</sub>Nb<sub>0.5</sub>)O<sub>3</sub> perovskite Oxide Ceramics** / PARK Jongho<sup>\*1</sup> (<sup>1</sup>Science Education, Chinju National University of Education)

P1-co,304

**Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub>-Sr<sub>0.25</sub>Ba<sub>0.75</sub>Nb<sub>2</sub>O<sub>6</sub> 유리의 결정화기구 및 유전특성 연구** / 백창규<sup>1</sup>, 권오혁<sup>1</sup>, 임영훈<sup>2</sup>, 양용석<sup>\*1</sup> (<sup>1</sup>부산대학교, 나노융합기술학과, <sup>2</sup>세명대학교, 교양대학)

P1-co,305

**비정질 Li<sub>2</sub>O-B<sub>2</sub>O<sub>3</sub>-Ta<sub>2</sub>O<sub>5</sub>의 유전특성 연구.** / 권오혁<sup>1</sup>, 백창규<sup>1</sup>, 임영훈<sup>2</sup>, 양용석<sup>\*1</sup> (<sup>1</sup>부산대학교, 나노융합기술학과, <sup>2</sup>세명대학교, 교양과정부)

P1-co,306

**Ferroelectric switching dynamics of polycrystalline orthorhombic HfO<sub>2</sub> thin films** / 이태윤<sup>1</sup>, 이경준<sup>1</sup>, 이준행<sup>1</sup>, 최종찬<sup>1</sup>, 채승철<sup>\*1</sup> (<sup>1</sup>서울대학교, 물리교육과)

P1-co,307

**High Strain of Na and K Deficient Bi<sub>0.5</sub>(Na<sub>0.78</sub>K<sub>0.22</sub>)<sub>0.5-x</sub>TiO<sub>3</sub> Piezoelectric Ceramics** / KIM Ill Won<sup>\*1</sup>, CHOI Jin Ho<sup>1</sup>, SEOG Hae Jin<sup>1</sup>, AHN Chang Won<sup>1</sup>, CHO Shinuk<sup>1</sup> (<sup>1</sup>Department of Physics and Energy Harvest-Storage Research Center, University of Ulsan)



P1-co,308

**Enhancement of Switchable Ferroelectric Photovoltaic Effects in h-RFeO<sub>3</sub> Thin Films via Strain Engineering** / HAN Hyeon<sup>1</sup>, KIM Donghoon<sup>1</sup>, JANG Hyun Myung<sup>\*1</sup> (<sup>1</sup>Department of Materials Science and Engineering, and Division of Advanced Materials Science, Pohang University of Science and Technology (POSTECH))

P1-co,309

**Strong Coupling between Strain and in situ Exsolution in Epitaxial Perovskite Thin Films** / HAN Hyeon<sup>1</sup>, KIM Kun Joong<sup>1</sup>, JANG Hyun Myung<sup>\*1</sup> (<sup>1</sup>Department of Materials Science and Engineering, Pohang University of Science and Technology (POSTECH))

P1-co,310

**Dependence of deposition temperature of Nd-doped Bi<sub>4</sub>Ti<sub>3</sub>O<sub>12</sub> thin films Prepared by Pulsed Laser Deposition.** / KIM Eunyong<sup>1</sup>, BU Sangdon<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chonbuk National University)

P1-co,311

**Physical understanding of electrocatalytic activity in epitaxial CaRuO<sub>3</sub> thin films** / LEE Jegon<sup>1</sup>, LEE Sanga<sup>1</sup>, OH Seokjae<sup>1</sup>, LEE Suyoun<sup>2</sup>, BAE Jongseong<sup>3</sup>, CHEGAL Won<sup>4</sup>, PARK Sungkyun<sup>5</sup>, CHOI Taekjib<sup>6</sup>, CHOI wooseok<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University, <sup>2</sup>Electronic Materials Research Center, Korea Institute of Science and Technology, <sup>3</sup>Busan Center, Korea Basic Science Institute, <sup>4</sup>Division of Optical Metrology, Korea Research Institute of Standards and Science, <sup>5</sup>Department of Physics, Pusan National University, <sup>6</sup>Department of Nanotechnology and Advanced Materials Engineering, Sejong University)

P1-co,312

**Colossal permittivity of single-crystalline (In+Nb) co-doped TiO<sub>2</sub>** / HUR Soomin<sup>1</sup>, CHO Kwanghee<sup>1</sup>, PARK Soonyong<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chung-Ang University)

P1-co,313

**Acoustic and Dielectric Properties of Lead-Free (Na<sub>1/2</sub>Bi<sub>1/2</sub>TiO<sub>3</sub>)-BaTiO<sub>3</sub> Single Crystals** / 이병완<sup>1</sup>, 고재현<sup>\*1</sup>, LI Xiaobing<sup>2</sup>, LUO Haosu<sup>2</sup> (<sup>1</sup>한림대학교, 응용광물리학과, <sup>2</sup>Chinese Academy of Sciences, Shanghai Institute of Ceramics)

P1-co,314

**EPR and Optical Absorption Investigation of Cu<sub>2+</sub> ions in Li<sub>2</sub>O-B<sub>2</sub>O<sub>3</sub>-CuO Glasses** / 노태호<sup>1</sup>, 김영훈<sup>1</sup>, 최덕<sup>1</sup>, 송승기<sup>\*1</sup> (<sup>1</sup>명지대학교, 물리학과)

P1-co,315

**Exotic magnetic behavior in SrRuO<sub>3</sub>/SrTiO<sub>3</sub> artificial superlattices**

/ JEONG Seung Gyo<sup>1</sup>, WOO Sungmin<sup>1</sup>, KIM Jiwoong<sup>3</sup>, KIM Youngmin<sup>2,4</sup>, PARK Sungkyun<sup>3</sup>, CHOI Woo Seok<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University, <sup>2</sup>Department of Energy Sciences, Sungkyunkwan University, <sup>3</sup>Department of Physics, Pusan National University, <sup>4</sup>Center for Integrated Nanostructure Physics, Institute for Basic Science)

P1-co,316

**Phase transformations and polymorphism in Ti<sub>2</sub>SO<sub>4</sub>** / LEE Kwang-Sei<sup>\*1</sup>, KIM Jin Soo<sup>2</sup>, OH In-Hwan<sup>3</sup> (<sup>1</sup>Department of Nano Science & Engineering, Center for Nano Manufacturing, Inje University, <sup>2</sup>Department of Physics, Changwon National University, <sup>3</sup>Neutron Science Center, Korea Atomic Energy Research Institute)

P1-co,317

**Development of direct electrocaloric effect measurement system** / KIM Jaewoong<sup>1</sup>, JUNG Jonghoon<sup>\*1</sup> (<sup>1</sup>Department of physics, INHA University)

**P1-co.4** Condensed matter physics: Instrumentation and big facilities  
포스터 발표

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00  
Presentation: 2017.10.25 Wednesday 18:00-19:30 Place: Exhibition Hall

**P1-co.401**

**Spontaneous phase separation of In-doped beta-Ga<sub>2</sub>O<sub>3</sub> thin films grown by radio frequency powder sputtering** / 차수연<sup>1</sup>, 강현철<sup>1</sup>  
(<sup>1</sup>조선대학교, 재료공학과)

**P1-co.402**

**Fabrication of nano-porous ZnO nanowires using a process combining laser-induced hydrothermal growth followed by a post annealing process** / 김소진<sup>1</sup>, 강현철<sup>1</sup> (<sup>1</sup>조선대학교, 재료공학과)

**P1-co.403**

**Synthesize and characterization of SnO and SnO<sub>2</sub> NWs synthesized By thermal-CVD under hydrogen reduction condition** / 정원<sup>1</sup>, 강현철<sup>1</sup> (<sup>1</sup>조선대학교, 재료공학과)

**P1-co.404**

**ZnO nano-structures synthesized by x-ray induced hydrothermal process** / 차수연<sup>1</sup>, 이수용<sup>2</sup>, 노도영<sup>3</sup>, 강현철<sup>1</sup> (<sup>1</sup>조선대학교, 재료공학과, <sup>2</sup>포항공대, 포항가속기연구소, <sup>3</sup>광주과학기술원, 물리광학과)

**P1-co.405**

**Efficient characterization of the beam by nanoparticle diffraction in XFEL** / LEE Heemin<sup>1</sup>, JUNG Chulho<sup>1</sup>, NAM Daewoong<sup>1</sup>, SONG Changyong<sup>\*1</sup> (<sup>1</sup>Department of Physics, POSTECH)

**P1-co.406**

**자성박막측정을 위한 하나로 편극 중성자 반사율측정장치 개선** / 이준혁<sup>1</sup>  
(<sup>1</sup>한국원자력연구원, 중성자과학연구센터)

**P1-co.407**

**Demonstrations of ptychographic imagings in PAL-II** / SUNG Daeho<sup>1</sup>, LEE Heemin<sup>1</sup>, JUNG Chulho<sup>1</sup>, CHO Dohyung<sup>1</sup>, PARK Sein<sup>1</sup>, SONG Changyong<sup>\*1</sup> (<sup>1</sup>Department of Physics, POSTECH)

**P1-co.408**

**Systematic investigation on resolution in X-ray free electron laser single-pulse imaging** / JUNG Chulho<sup>1</sup>, NAM Daewoong<sup>2</sup>, NOH Doyoung<sup>3</sup>, SONG Changyong<sup>\*1</sup> (<sup>1</sup>Physics, POSTECH, <sup>2</sup>Pohang Accelerator Laboratory, POSTECH, <sup>3</sup>Department of Physics and Photon Science, Gwangju Institute of

Science and Technology)

**P1-co.409**

**Three dimensional visualization core-shell structure of oxidized nickel nano particles by using coherence x-ray diffraction imaging.** / AHN Kangwoo<sup>1</sup>, KIM Junhyung<sup>1</sup>, KWON Ohyoung<sup>1</sup>, KIM Yoonhee<sup>2</sup>, NOH Do Young<sup>\*1</sup> (<sup>1</sup>Department of Photonics and Applied Physics, Gwangju Institute of Science and Technology, <sup>2</sup>Single Particles, Clusters, and Biomolecules and Serial Femtosecond Crystallography, European XFEL)

**P1-co.410**

**스퀴드 자력계에서 발견되는 오류와 수정 방법** / 엄태운<sup>1</sup>, 이년중<sup>1</sup>, 조영훈<sup>1</sup>, 박승영<sup>\*1</sup> (<sup>1</sup>한국기초과학지원연구원, 스핀공학물리연구팀)

**P1-co.411**

**Performance test of new ambient pressure XPS at GIST** / 임호준<sup>1</sup>, 문봉진<sup>1</sup>, 유영석<sup>1</sup>, 고유빈<sup>1</sup>, 김건화<sup>1</sup>, 정문정<sup>1</sup> (<sup>1</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology)

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Presentation: 2017.10.25 Wednesday 18:00-19:30

Place: Exhibition Hall

## P1-co,501

**Inertia-driven switching of antiferromagnet via electrically induced Dzyaloshinskii-Moriya torque** / KIM Tae Heon<sup>1,2</sup>, PETER Gruenberg<sup>2</sup>, HAN Song Hee<sup>3</sup>, CHO Beong Ki<sup>1,2</sup> (<sup>1</sup>School of Materials Science and Engineering, Gwangju Institute of Science and Technology, <sup>2</sup>Gruenberg Center for Magnetic Nanomaterials, Gwangju Institute of Science and Technology, <sup>3</sup>Division of Navigation Science, Mokpo Maritime National University)

## P1-co,502

**Comparison of Dzyaloshinskii-Moriya interaction energy by using asymmetric spin-waves propagation and domain wall motion speed measurement** / KIM Dae-Yun<sup>1</sup>, KIM Nam-Hui<sup>2</sup>, NAM Yune-Seok<sup>1</sup>, KIM Joo-Sung<sup>1</sup>, CHOI Hyeok-Cheol<sup>1</sup>, PARK Min-ho<sup>1</sup>, PARK Yong-Keun<sup>1</sup>, CHOE Sug-Bong<sup>1</sup>, YOU Chun-Yeol<sup>2</sup> (<sup>1</sup>Department of Physics and Institute of Applied Physics, Seoul National University, <sup>2</sup>Department of Emerging Materials Science, DGIST)

## P1-co,503

**Spin-orbit torque in an antiferromagnet in weakly noncollinear spin configuration** / CHEON Suik<sup>1</sup>, LEE Hyun-Woo<sup>1</sup> (<sup>1</sup>Department of Physics, Pohang University of Science and Technology)

## P1-co,504

**Probing of time-dependent magnetization switching due to domain wall creep motion in multiple hall bar structure** / HWANG Hee-Kyeong<sup>1</sup>, KWON Jae Suk<sup>1</sup>, LEE Ki-Seung<sup>1</sup>, HONG Jung-II<sup>1</sup>, YOU Chun-Yeol<sup>1</sup> (<sup>1</sup>Department of Emerging Materials Science, Daegu Gyeongbuk Institute of Science and Technology(DGIST))

## P1-co,505

**위상 콘도 절연체 CeRhSb의 방사광 분광 연구** / 성승호<sup>1</sup>, 이은숙<sup>1</sup>, TAKABATAKE T.<sup>2</sup>, DENLINGER J. D.<sup>3</sup>, 강정수<sup>1</sup> (<sup>1</sup>가톨릭대학교, 물리학과, <sup>2</sup>Graduate School of Advanced Sciences of Matter, Hiroshima University, <sup>3</sup>Lawrence Berkeley National Laboratory, USA, ALS)

## P1-co,506

**Effects of metal-insulator-transition of V<sub>2</sub>O<sub>3</sub> on magnetic properties of ferromagnetic layer** / PARK Kwonjin<sup>1</sup>, YOON Seongsoo<sup>1</sup>, HONG Jung-II<sup>1</sup>, YOU Chun-Yeol<sup>1</sup> (<sup>1</sup>Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology (DGIST))

## P1-co,507

**Compensated Half-metal in Cr-based Inverse-Heusler Compounds** / JIN Hyo-Sun<sup>1</sup>, LEE Kwan-Woo<sup>1,2</sup> (<sup>1</sup>Department of Applied Physics, Graduate School, Korea University, Sejong, <sup>2</sup>Division of Display and Semiconductor Physics, Korea University, Sejong)

## P1-co,508

**Understanding the spin glass behavior in ultrathin van der Waals spin glass Mn<sub>0.5</sub>Fe<sub>0.5</sub>S<sub>2</sub>** / SON Suhan<sup>1,2</sup>, KIM Haeri<sup>1,2</sup>, LEE Sungmin<sup>1,2</sup>, PARK Je-Geun<sup>1,2</sup> (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>2</sup>Department of Physics and Astronomy, Seoul National University)

## P1-co,509

**Improvement of spin wave transmission in magnetic nanowire system** / PURNAMA Indra<sup>1</sup>, YOU Chun-Yeol<sup>1</sup> (<sup>1</sup>Emerging Materials Science, Daegu Gyeongbuk Institute of Science and Technology)

## P1-co,510

**Magnetic Excitations in bulk (Lu,Sc)FeO<sub>3</sub>** / LEINER Jonathan<sup>1,2</sup>, OH Joosung<sup>1,2</sup>, PARK Kisoo<sup>1,2</sup>, KIM Taehun<sup>1,2</sup>, PERRING Toby<sup>3</sup>, WALKER Helen<sup>3</sup>, XU Xianghan<sup>4</sup>, CHEONG Sang-Wook<sup>4</sup>, PARK Je-Geun<sup>1,2</sup> (<sup>1</sup>Center for Correlated Electron Systems, Institute of Basic Science, <sup>2</sup>Department of Physics and Astronomy, Seoul National University, <sup>3</sup>ISIS Facility, Rutherford Appleton Laboratory, <sup>4</sup>Rutgers Center for Emergent Materials, Rutgers University)

## P1-co,511

**Epitaxy of Fe thin films and effect of Mo capping** / AHN Eunjung<sup>1</sup>, KONG Hyeonjun<sup>1</sup>, KIM Gwoon<sup>1</sup>, CHO Jinhyung<sup>2</sup>, JEEN Hyoungjeen<sup>1</sup> (<sup>1</sup>Department of Physics, Pusan National University, <sup>2</sup>Department of Physics Education, Pusan National University)

## P1-co,512

**Investigation of the effect of composition of FeCo magnetic material on magnetic properties using high-throughput process** / 김호섭<sup>1</sup>, 정국채<sup>2</sup>, Kiran-Shinde<sup>2</sup> (<sup>1</sup>한국전기연구원, 초전도연구센터, <sup>2</sup>재료연구소, 분말/세라믹 연구본부)

## P1-co,513

**Electron paramagnetic resonance study of Y-doped ZnO** / LEE Yeonho<sup>1</sup>, LEE Kyuwon<sup>1</sup>, LEE Cheoleui<sup>1</sup> (<sup>1</sup>Department of Physics, Korea University)

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00

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## P1-nu.001

**Exotic glueball within QCD sum rule** / LEE Hee-Jung<sup>\*1</sup>, PIMIKOV Alexandr<sup>2,3</sup>, KOCHLEV Nikolai<sup>2,3</sup>, ZHANG Pengming<sup>1</sup> (<sup>1</sup>Department of Physics Education, Chungbuk National University, <sup>2</sup>Institute of Modern Physics, Chinese Academy of Science, China, <sup>3</sup>Bogoliubov Laboratory of Theoretical Physics, Joint Institute for Nuclear Research, Russia)

## P1-nu.002

**우주선 뮤온 개수의 천정각 의존성 확인** / LEE Hyungjun<sup>1</sup>, KWEON Minjung<sup>\*1</sup> (<sup>1</sup>인하대학교, 물리학과)

## P1-nu.003

**An upgraded silicon PIN photodiode based radon detector for underground experiments environment: Status and comparison with RAD7** / SEO Kyungmin<sup>1</sup>, LEE MooHyun<sup>\*2</sup>, KIM Yeongduk<sup>1,2</sup>, LEE Hyunsu<sup>2</sup>, OLSEN Stephan Lars<sup>2</sup>, KIM Yong Hamb<sup>2</sup>, KIM Hongjoo<sup>3</sup>, LEE Jaison<sup>2</sup>, PARK Chan woo<sup>3</sup>, KIM Woo tae<sup>2</sup>, KIM Hyung gyu<sup>2</sup>, JEON Eunju<sup>2</sup>, LEONARD Douglas<sup>2</sup>, HA Chang hyun<sup>2</sup>, KIM Nam young<sup>2</sup>, JANG Sang cheol<sup>4</sup>, PARK Hyang gyu<sup>2</sup>, KIM Hyunsoo<sup>1</sup>, KIM Sung hyun<sup>2</sup>, YOON young soo<sup>2</sup>, PARK Kang soon<sup>2</sup> (<sup>1</sup>Department of Physics, Sejong University, <sup>2</sup>Center for Underground Physics, Institute for Basic Science, <sup>3</sup>Department of Physics, Kyungpook National University, <sup>4</sup>Department of Physics, Seoul National University)

## P1-nu.004

**Development of Medical Plastic Scintillator Dosimeter Using Colorimetric Discrimination Method** / 심청보<sup>1</sup>, 박상인<sup>2</sup>, 김양규<sup>1</sup>, 문달호<sup>1</sup>, 홍승우<sup>1</sup>, 박태선<sup>1</sup> (<sup>1</sup>성균관대학교, 물리학과, <sup>2</sup>성균관대학교, 에너지과학과)

## P1-nu.005

**Recovery of Molybdenum from Molybdenum-Based Crystal Waste** / ARYAL Pabitra<sup>1</sup>, KIM HongJoo<sup>\*1</sup>, PARK HyangKyu<sup>2</sup>, SHIN KeonAh<sup>2</sup>, GILEVA Olga<sup>2</sup>, KARKI Sujita<sup>1</sup> (<sup>1</sup>Department of Physics, Kyungpook National University, <sup>2</sup>Center for Underground Physics, Institute of Basic Science)

## P1-nu.006

**Compton Suppression Spectrometer Monte Carlo Simulation** / 홍성표<sup>\*1</sup>, 김창석<sup>1</sup>, 강보선<sup>1</sup>, 조승연<sup>2</sup> (<sup>1</sup>건양대학교, 의과학과, <sup>2</sup>국가핵융합연구소, ITER 사업단)

## P1-nu.007

**Phonon-scintillation properties of molybdate crystals measured by a compact low temperatures measurement system** / 김혜람<sup>1,2</sup>, 김용함<sup>1</sup>, 김홍주<sup>2</sup> (<sup>1</sup>기초과학연구원, 지하실험연구단, <sup>2</sup>경북대학교, 물리학과)

## P1-nu.008

**Molybdenum Based Crystal Growing at CUP** / SON Ju Kyung<sup>1</sup>, SHIN Keon Ah<sup>1</sup>, KIM Dae Yeon<sup>1</sup>, RA Se Jin<sup>1</sup>, PARK H. K.<sup>1</sup>, KIM Y. D.<sup>1</sup>, KIM H. J.<sup>\*2</sup> (<sup>1</sup>Center for Underground Physics, Institute for Basic Science, <sup>2</sup>Department of Physics, Kyungpook National University)

## P1-nu.009

**Nal Crystal Growing and Facility at CUP** / KIM Dae Yeon<sup>1</sup>, SHIN Keon Ah<sup>1</sup>, SON Ju Kyung<sup>1</sup>, RA Se Jin<sup>1</sup>, PARK H. K.<sup>1</sup>, KIM Y. D.<sup>1</sup>, KIM H. J.<sup>\*2</sup> (<sup>1</sup>Center for Underground Physics, Institute for Basic Science, <sup>2</sup>Department of Physics, Kyungpook National University)

## P1-nu.010

**100 MeV 양성자가속기를 이용한 반도체 소자의 방사선 조사효과 실험용 빔조사 조건 연구** / 김계형<sup>\*1</sup>, 하준목<sup>1</sup>, 석재권<sup>1</sup>, 이필수<sup>1</sup>, 조용섭<sup>1</sup> (<sup>1</sup>한국원자력연구원, 양성자가속기연구센터)

## P1-nu.011

**Spin-exchange Optical Pumping of 129Xe** / KAVTANYUK Vladimir<sup>1</sup>, KIM Wooyoung<sup>\*1</sup>, TAN Joshua Artem<sup>1</sup>, CHEBOTARYOV Sergey<sup>1</sup>, SEON Yonggeun<sup>1</sup>, ANDO Yu<sup>1</sup>, BAE Youngcheol<sup>1</sup> (<sup>1</sup>Department of Physics, Kyungpook National University)

## P1-nu.012

**Scintillation Properties of K2LiCeBr6 Grown by Bridgman Technique.** / 조재영<sup>1</sup>, 김민정<sup>2</sup>, 김성환<sup>3</sup>, 김홍주<sup>\*1</sup> (<sup>1</sup>경북대학교, 물리학과, <sup>2</sup>한국수력원자력, 중앙연구소, <sup>3</sup>청주대학교, 방사선과학과)

## P1-nu.013

**Compton imaging acquisition based on DSSD and CZT detectors** / LEE Jong Hun<sup>\*1</sup>, JANG Taek jin<sup>1</sup>, LEE Il Maek<sup>1</sup>, LEE Chun Sik<sup>1</sup>, CHO Hwa Youn<sup>2</sup> (<sup>1</sup>Department of Physics, Chung-Ang University, <sup>2</sup>Institute of Innovative Functional Imaging, Chung-Ang University)

## P1-nu.014

**위치 민감형 섬광 검출기의 위치 분해능 향상과 감마선 에너지 분해능 비교** / 장택진<sup>\*1,2</sup>, 조화연<sup>2</sup>, 이종훈<sup>1,2</sup>, 이일백<sup>1,2</sup>, 이춘식<sup>1,2</sup> (<sup>1</sup>중앙대학교, 물리학과, <sup>2</sup>중앙대학교, 신기능이미징연구소)

## P1-nu.015

**Synthesis of Li-Ti-O ceramic materials for tritium production**

**in nuclear fusion reactors** / WOO Sung Pil<sup>1</sup>, KIM In Yea<sup>2</sup>, KIM Dae Yun<sup>2</sup>, CHA Yoo Lim<sup>2</sup>, YOON Young Soo<sup>\*2</sup> (<sup>1</sup>Department of Materials Science and Engineering, Yonsei University, <sup>2</sup>Department of Chemical and Biological Engineering, Gachon University)

**P1-nu.016**

**Analysis of Neutron Capture Yield Spectra of Dysprosium for MLF beam line of J-PARC** / LEE Jieun<sup>1</sup>, JANG hee jin<sup>1</sup>, RO Taeik<sup>\*1</sup>, KIM Guinyun<sup>2</sup>, KIM Kwangsoo<sup>2</sup>, LEE ManWoo<sup>3</sup>, KANG Yeong-Rok<sup>3</sup>, SHIN Sung Gyun<sup>4</sup>, CHO Moo Hyun<sup>4</sup> (<sup>1</sup>Department of Physics, Dong-A University, <sup>2</sup>Department of Physics, Kyungpook National University, <sup>3</sup>Radiological and Medical Science research center, Dongnam Institute of Radiological and Medical Science, <sup>4</sup>Division of Advanced Nuclear Engineering, POSTECH)

**P1-nu.017**

**Measurement of the Transmittance and Mass Attenuation Coefficient of Materials According to the Gamma-Ray Energy** / JANG Heejin<sup>1</sup>, LEE Jieun<sup>1</sup>, YOON Jungran<sup>1</sup>, RO Tae-ik<sup>\*1</sup> (<sup>1</sup>Department of Physics, Dong-A University)

**P1-nu.018**

**Measurement of Delayed Gamma-ray Energy Spectrum from Residual Nuclide for natW(p,x) Reaction by 100-MeV Proton Accelerator** / LEE Jieun<sup>1,3</sup>, YOON Jungran<sup>\*1</sup>, RO Taeik<sup>1</sup>, LEE Samyol<sup>2,3</sup> (<sup>1</sup>Department of Physics, Dong-A University, <sup>2</sup>Department of Radiological Science, Dongseo University, <sup>3</sup>Center for Radiological Environment & Health Science, Dongseo University)

**P1-nu.019**

**Measurement of isomeric cross section ratios for the natCo(p,x)58m,gCo reaction** / KIM HyoJin<sup>1</sup>, KIM Hyun<sup>1</sup>, NOH Sung Jin<sup>1</sup>, JEONG Dong Hyeok<sup>1</sup>, RO Tae-Ik<sup>2</sup>, KIM Guinyun<sup>3</sup>, KANG Yeong-Rok<sup>\*1</sup> (<sup>1</sup>Research Center, Dongnam Inst. of Radiological & Medical Sciences, <sup>2</sup>Physics, Dong-A University, <sup>3</sup>Physics, Kyungpook National University)

**P1-nu.020**

**Zr의 양성자방사화에 의한 방사성핵종의 생성단면적 측정 / 양성철<sup>\*1</sup>, 송태영<sup>1</sup>, 이영욱<sup>1</sup>, 김귀년<sup>2</sup>** (<sup>1</sup>한국원자력연구원, 원자력데이터센터, <sup>2</sup>경북대학교, 물리학과)

**P1-nu.021**

**핵융합로용 RAFM강에서 Ti 및 Ta 첨가에 따른 미세조직 및 크리프 거동 특성 고찰 (Microstructure stability and creep behavior of RAFM steels with Ti and Ta addition)** / 김한규<sup>1</sup>, 이지원<sup>1</sup>, 문준오<sup>2</sup>, 이창훈<sup>2</sup>, 홍현욱<sup>\*1</sup> (<sup>1</sup>창원대학교, 신소재공학부, <sup>2</sup>재료연구소, 철강재료연구실)

**P1-nu.022**

**The study about nuclear structural changes in the rare-earth isotopic chains** / LEE suyoun<sup>\*1</sup>, LEE youngjun<sup>1</sup>, LEE jonghwan<sup>1</sup> (<sup>1</sup>Department of physics, Dongeui University)

**P1-nu.023**

**Energy loss dependence of Two particle correlation** / 허경범<sup>1</sup>, 조소연<sup>1</sup>, 윤진희<sup>\*1</sup> (<sup>1</sup>인하대학교, 물리학과)

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00

Presentation: 2017.10.25 Wednesday 18:00-19:30

Place: Exhibition Hall

## P1-pl.001

**2-D/3-D visualization of MHD instabilities and turbulence on KSTAR and WEST** / NAM Yoonbum<sup>1</sup>, PARK Hyeonkeo<sup>\*1,2</sup>, KIM Minwoo<sup>1</sup>, LEE Jaehyun<sup>1</sup>, YUN Gunsu<sup>3</sup>, LEE woosung<sup>2</sup> (<sup>1</sup>Natural Science, Ulsan National Institute of Science and Technology, <sup>2</sup>KSTAR Research Center, National Fusion Research Institute, <sup>3</sup>Physics, Pohang University of Science and Technology)

## P1-pl.002

**KSTAR 가열 및 안정성을 위한 고출력 밀리미터파 빔 입사 제어 시스템 개발 / 최문석<sup>1</sup>, 최은미<sup>\*1</sup>** (<sup>1</sup>울산과학기술원, 물리학과)

## P1-pl.003

**자기속핵융합로 수송 제어를 위한 전단유체 전자기난류의 Non-modal 해석 / 오세훈<sup>1</sup>, MIKHAILENKO Vladimir V.<sup>1</sup>, 조영현<sup>1</sup>, MIKHAILENKO Vladimir S.<sup>1</sup>, 이해준<sup>\*1</sup>** (<sup>1</sup>부산대학교, 전기전자컴퓨터공학과)

## P1-pl.004

**핵융합로 유사조건 고성능 운전모드 구현 실험 연구 / 황용석<sup>1</sup>, 이현영<sup>1</sup>, 조종갑<sup>1</sup>, 양정훈<sup>1</sup>, 김영기<sup>1</sup>, 김유성<sup>1</sup>, 김성철<sup>1</sup>, 이기현<sup>1</sup>, 왕종인<sup>1</sup>, 김도연<sup>1</sup>, 홍슬잔<sup>1</sup>, 장재영<sup>1</sup>** (<sup>1</sup>서울대학교, 원자핵공학과)

## P1-pl.005

**LightTools를 이용한 VEST 톱슨 산란계의 stray light 감소용 부품 설계 / 김도연<sup>1</sup>, 김영기<sup>1</sup>, 유민구<sup>1</sup>, 나용수<sup>1</sup>, 황용석<sup>1</sup>** (<sup>1</sup>서울대학교, 원자핵공학과)

## P1-pl.006

**Statistical Analysis of pedestal structure in KSTAR H-modes using Neural Network** / 박정균<sup>1</sup>, 김상균<sup>1</sup>, 나용수<sup>\*1</sup> (<sup>1</sup>Department of Nuclear Engineering, Seoul National University)

## P1-pl.007

**Upgrade of Mesh Generator for Transport Analysis of Various Magnetic Configurations in Tokamak** / LEE Jaegon<sup>1</sup>, NA Yong-su<sup>\*1</sup> (<sup>1</sup>Department of Nuclear engineering, Seoul National University)

## P1-pl.008

**Perturbative studies of toroidal momentum transport in KSTAR H-mode and effect of ion temperature perturbation** / YANG SeongMoo<sup>1</sup>, NA DongHyeon<sup>1</sup>, NA Yong-Su<sup>\*1</sup>, PARK JongKyu<sup>2</sup>, SHI YueJiang<sup>1</sup>,

KO WonHa<sup>3</sup>, LEE SangGon<sup>3</sup>, HAHM TaikSoo<sup>1,3</sup> (<sup>1</sup>Department of Nuclear Engineering, Seoul National University, <sup>2</sup>Princeton Plasma Physics Laboratory, <sup>3</sup>National Fusion Research Institute)

## P1-pl.009

**Status of the Lower Hybrid Fast Wave Research on VEST** / KIM Sunho<sup>\*1</sup>, LEE Hyunwoo<sup>2</sup>, JO Jonggab<sup>3</sup>, JUNG Bongki<sup>1</sup>, LEE Hyunyoung<sup>3</sup>, WANG Jongin<sup>3</sup>, JEONG SeungHo<sup>1</sup>, LEE Byungje<sup>2</sup>, HWANG Yongseok<sup>3</sup> (<sup>1</sup>Nuclear Fusion Technology Development Division, Korea Atomic Energy Research Institute, <sup>2</sup>Department of Electronics Convergence Engineering, Kwangju University, <sup>3</sup>Department of Nuclear Engineering, Seoul National University)

## P1-pl.010

**다양한 디버터 조건에서 KSTAR SOL 영역의 운동량, 파워 손실 및 디버터 분리 현상의 비대칭 분석 / 박재선<sup>1,2</sup>, Mathias Groth<sup>3</sup>, 홍석호<sup>4</sup>, 최원호<sup>\*1,2,5</sup>** (<sup>1</sup>한국과학기술원, 물리학과, <sup>2</sup>불순물 및 경계플라즈마 연구센터, 불순물 및 경계플라즈마 연구센터, <sup>3</sup>Aalto University, Department of Applied Physics, <sup>4</sup>국가핵융합연구소, 국가핵융합연구소, <sup>5</sup>한국과학기술원, 원자력 및 양자공학과)

## P1-pl.011

**극자외선 분광진단시스템을 활용한 KSTAR 플라즈마의 텅스텐 스펙트럼 모델링 연구 초기결과 / 송인우<sup>1,2</sup>, 권덕희<sup>3</sup>, 홍주환<sup>1,2</sup>, 선창래<sup>4</sup>, 안영하<sup>4</sup>, GUIRLET Remy<sup>5</sup>, 최원호<sup>\*1,2,6</sup>** (<sup>1</sup>한국과학기술원, 물리학과, <sup>2</sup>불순물 및 경계 플라즈마 연구센터, <sup>3</sup>한국원자력연구원, Nuclear Data Center, <sup>4</sup>국가핵융합연구소, <sup>5</sup>CEA, IRFM, <sup>6</sup>한국과학기술원, 원자력 및 양자공학과)

## P1-pl.012

**크립톤 불순물 주입을 통한 KSTAR H-모드 플라즈마 ELM 억제 및 내부수송장벽 생성 / 홍주환<sup>1,2</sup>, 장주혁<sup>1,2</sup>, 송인우<sup>1,2</sup>, 선창래<sup>4</sup>, 전태민<sup>1,2</sup>, 박재선<sup>1,2</sup>, 홍석호<sup>3</sup>, 최원호<sup>\*1,2,4</sup>** (<sup>1</sup>한국과학기술원, 물리학과, <sup>2</sup>불순물 및 경계 플라즈마 연구센터, <sup>3</sup>국가핵융합연구소, <sup>4</sup>한국과학기술원, 원자력 및 양자공학과)

## P1-pl.013

**3차원 자기장 섭동 인가시 KSTAR 불순물 방출광의 2차원 단면 영상 재구성 / 장주혁<sup>1,2</sup>, 최원호<sup>\*1,2,3</sup>, PETERSON Byron Jay<sup>4</sup>, 오승태<sup>5</sup>, 이형호<sup>5</sup>, 서동철<sup>5</sup>, SANO Ryuichi<sup>6</sup>, 홍석호<sup>5</sup>, MUKAI Kiyofumi<sup>4</sup>, 홍주환<sup>1,2</sup>** (<sup>1</sup>한국과학기술원, 물리학과, <sup>2</sup>불순물 및 경계 플라즈마 연구센터, <sup>3</sup>한국과학기술원, 원자력 및 양자공학과, <sup>4</sup>National Institute for Fusion Science, <sup>5</sup>국가핵융합연구소, <sup>6</sup>National Institutes for Quantum and Radiological Science and Technology (QST))

## P1-pl.014

**다채널 탐침장치를 이용한 KSTAR 플라즈마 변수 측정 및 ELM 특성 / 김관용<sup>1</sup>, 홍석호<sup>2</sup>, 박일서<sup>1</sup>, 홍영훈<sup>1</sup>, 손수현<sup>2</sup>, 이규동<sup>2</sup>, 남용운<sup>2</sup>, 정진욱<sup>\*1</sup>** (<sup>1</sup>한양대학교, 전기공학과, <sup>2</sup>국가핵융합연구소(NFRI), 대전)



P1-pl,015

**Research on the behavior of neutral particles and electrons in X-point simulator system** / GHIM Young-chul<sup>\*1</sup>, LIM Yegeon<sup>1</sup>, KWON Daeho<sup>1</sup>, LEE Wonjun<sup>1</sup> (<sup>1</sup>Department of Nuclear & Quantum Engineering, Korea Advanced Institute of Science and Technology)

P1-pl,016

**Training program for students in nuclear fusion** / GHIM Young-chul<sup>\*1</sup> (<sup>1</sup>Korea Advanced Institute of Science and Technology, Department of Nuclear & Quantum Engineering)

P1-pl,017

**Growth rate of electrostatic surface waves in a dusty plasma containing collision-dominated ion flow** / JUNG Gwanyong<sup>1</sup>, LEE Myoung-Jae<sup>\*1</sup>, JUNG Young-Dae<sup>2</sup> (<sup>1</sup>Department of Physics, Hanyang University, <sup>2</sup>Department of Applied Physics and Department of Biotechnology, Hanyang University, Ansan)

P1-pl,018

**Measurement of Deuterium Retention in Tantalum** / BYEON W. J.<sup>1</sup>, SHIN H. W.<sup>1</sup>, SEO H. J.<sup>1</sup>, KIM H. S.<sup>1</sup>, NOH S. J.<sup>\*1</sup> (<sup>1</sup>Department of Physics, Dankook University)

P1-pl,019

**Study of Deuterium Permeation in Er2O3 Coating on SS316L** / BYEON W. J.<sup>1</sup>, SHIN H. W.<sup>1</sup>, CHOI Halim<sup>1</sup>, NOH S. J.<sup>1</sup>, KIM Yongmin<sup>\*1</sup> (<sup>1</sup>Department of Physics, Dankook University)

P1-pl,020

**Absorption and Desorption Properties of Hydrogen Isotopes in Cu-based Plasma Structural Materials** / NGUYEN Lan Anh Thi<sup>1</sup>, Sang-hwa LEE<sup>1</sup>, S. J. NOH<sup>2</sup>, S. K. LEE<sup>3</sup>, Jaeyong KIM<sup>\*1</sup> (<sup>1</sup>Department of Physics, Hanyang University, <sup>2</sup>Department of Applied Physics, Dankook University, <sup>3</sup>Nuclear Materials Research Division, Korea Atomic Energy Research Institute)

P1-pl,021

**Irradiation effects in Ti-added Reduced Activation Ferritic-Martensitic Steels** / HUH Jungwoo<sup>1</sup>, SHIN Chansun<sup>\*1</sup>, JIN Hyung-ha<sup>2</sup>, LEE Chang-hoon<sup>3</sup> (<sup>1</sup>Department of Materials Science and Engineering, Myongji University, <sup>2</sup>Nuclear Materials Safety Research Division, Korea Atomic Energy Research Institute, <sup>3</sup>Ferrous Alloy Department, Korea Institute of Materials Science)

P1-pl,022

**Identification of hierarchical mechanical properties of martensite in RAFM steel using CP-FEM** / JEONG Woojin<sup>1</sup>, KWON Heungrok<sup>2</sup>,

JANG Dongchan<sup>2</sup>, LEE Chang-Hoon<sup>3</sup>, MOON Joonoh<sup>3</sup>, LEE Myoung-Gyu<sup>\*1</sup> (<sup>1</sup>Department of Materials Science and Engineering, Korea University, <sup>2</sup>Nuclear and Quantum Engineering, KAIST, <sup>3</sup>Ferrous Alloy Department, Korea Institute of Materials Science)

P1-pl,023

**내방사선 센서측정 칩 설계를 위한 회로 구조 및 방사선에 의한 성능 변화 분석** / 정경수<sup>1</sup>, 노덕훈<sup>2</sup>, 이형민<sup>\*1</sup> (<sup>1</sup>고려대학교, 전기전자공학부, <sup>2</sup>아주대학교, 전자공학과)

P1-pl,024

**2D material based junction transistor without gate insulator for radiation hardened electronics** / SEO Shem<sup>1</sup>, SHIN Yuseop<sup>1</sup>, LEE Sunghwan<sup>1</sup>, KIM Kyeongryun<sup>1</sup>, LEE Seunghyun<sup>\*1</sup> (<sup>1</sup>Dept. of Electrical Engineering, Kyunghee University)

P1-pl,025

**VNPFET에서 Radiation 입사각도와 입사에너지 변화에 따른 SER효과 분석** / 이관호<sup>1</sup>, 강명곤<sup>\*1</sup> (<sup>1</sup>한국교통대학교, 전자공학과)

P1-pl,026

**제일원리계산을 이용한 텅스텐 합금의 점결함 구조 분석** / 신영각<sup>1</sup>, 이병찬<sup>\*1</sup> (<sup>1</sup>경희대학교, 기계공학과)

P1-pl,027

**분자동역학을 이용한 벌크 텅스텐에서의 PKA 연속조사 시 온도 및 PKA 에너지의 변화에 따른 조사 손상 변화에 대한 연구** / 이형규<sup>1</sup>, 유상혁<sup>1</sup>, 이병찬<sup>2</sup>, 강건욱<sup>\*1</sup> (<sup>1</sup>연세대학교, 기계공학과, <sup>2</sup>경희대학교, 기계공학과)

P1-pl,028

**Sensitivity Analyses of Tungsten Plasma Facing Component for Typical Cooling Conditions** / LEE Yong Min<sup>1</sup>, JE Sang-Yun<sup>1</sup>, CHANG Yoon-Suk<sup>\*1</sup> (<sup>1</sup>Department of Nuclear Engineering, Kyung Hee University)

P1-pl,029

**Plasma density measurement with the time-domain-spectroscopy using laser-produced THz waves** / ROH Yulan<sup>1</sup>, KANG Keekon<sup>1</sup>, JANG Doguen<sup>1,2</sup>, SUK Hyyong<sup>\*1</sup> (<sup>1</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology, <sup>2</sup>University of Maryland, College Park, Institute for Research in Electronics and Applied Physics)

P1-pl,030

**Temporal evolution of a laser-induced air-breakdown plasma by a Q-switched Nd:YAG laser** / JEON Seongjin<sup>1</sup>, JIN Munsu<sup>1</sup>, SUK Hyyong<sup>\*1</sup> (<sup>1</sup>Department of Physics and Photon Science, Gwangju Institute of Science and

Technology)

**P1-pl.031**

고밀도 플라즈마 포일과 전반사된 원편광 레이저의 불안정한 상호작용 / 강태연<sup>1</sup>, 김영국<sup>1</sup>, 허민섭<sup>\*1</sup> (<sup>1</sup>울산과학기술원, 물리학과)

**P1-pl.032**

**Diagnosis of Plasma Density by Faraday Rotation of Broadband Pulse.** / 라옥주<sup>1</sup>, 허민섭<sup>\*1</sup> (<sup>1</sup>울산과학기술원, 물리학과)

**P1-pl.033**

플라즈마를 이용한 테라헤르츠파 광원 3D 시뮬레이션 / 권규빈<sup>1</sup>, 허민섭<sup>\*1</sup> (<sup>1</sup>울산과학기술원, 물리학과)

**P1-pl.034**

토카막 플라즈마 인터페로메트리 진단을 위한 레이저-플라즈마 기반 테라헤르츠파 광원 / 허민섭<sup>\*1</sup> (<sup>1</sup>Physics, UNIST)

**P1-pl.035**

**Collective Thomson Scattering System combined with the MIR system in KSTAR** / LEE Dongjae<sup>1</sup>, LEE Woochang<sup>\*2</sup>, PARK Hyeonk<sup>1,2</sup>, NAM Yongun<sup>2</sup>, LEEM Juneek<sup>3</sup> (<sup>1</sup>Department of Physics, UNIST, <sup>2</sup>Diagnostics team, NFRI, <sup>3</sup>Department of Physics, POSTECH)

**P1-pl.036**

**Fast ion driven drift wave instabilities in tokamak plasmas** / KANG Byungjun<sup>1</sup>, HAHM Taiksoo<sup>\*1</sup> (<sup>1</sup>Department of Energy Systems Engineering, Seoul National University)

**P1-pl.037**

**Resonant magnetic perturbation induced collisionless zonal flow decay in tokamak plasmas** / CHOI Gyungjin<sup>1</sup>, HAHM Taiksoo<sup>\*1</sup> (<sup>1</sup>Department of Nuclear Engineering, Seoul National University)

**P1-pl.038**

헬륨 대기압 플라즈마의 물성 진단을 위한 충돌-방사 모델의 구성 / 이원욱<sup>\*1,2</sup>, 심성용<sup>2</sup>, 오차환<sup>2</sup> (<sup>1</sup>한양대학교, 자연과학연구소, <sup>2</sup>한양대학교, 물리학과)

**P1-pl.039**

충돌-방사 모델의 광여기계수를 이용한 헬륨 플라즈마의 특성 연구 / 이원욱<sup>\*1,2</sup>, 심성용<sup>2</sup>, 오차환<sup>2</sup> (<sup>1</sup>한양대학교, 자연과학연구소, <sup>2</sup>한양대학교, 물리학과)

**P1-pl.040**

**Calculation of Stark broadening of Helium transition line in low temperature plasma.** / SHIM Sungyong<sup>1</sup>, SONG Eunki<sup>1</sup>, OH Cha-Hwan<sup>1</sup>,

LEE Wonwook<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Hanyang University, <sup>2</sup>Research Institute for Natural Sciences, Hanyang University)

**P1-pl.041**

헬륨 플라즈마내 플라즈마 방출광의 주파수 선폭 확대 / 심성용<sup>1</sup>, 송은기<sup>1</sup>, 오차환<sup>1</sup>, 이원욱<sup>\*1,2</sup> (<sup>1</sup>한양대학교, 물리학과, <sup>2</sup>한양대학교, 자연과학연구소)

**P1-pl.042**

**Study on Optimum Configuration of Fusion System Based on Low Aspect Ratio Tokamak by Coupled Analysis of Tokamak Systems and Neutron Transport** / 홍봉근<sup>\*1</sup> (<sup>1</sup>전북대학교, 양자시스템공학과)

**P1-pl.043**

국제 핵융합 재료조사시설(IFMIF)의 안정적 운전을 위한 고강도 빔 물리 연구 / 광동현<sup>1</sup>, 문석호<sup>1</sup>, 정모세<sup>1</sup>, 한정훈<sup>2</sup> (<sup>1</sup>울산과기원, 물리학과, <sup>2</sup>서울대학교, 핵융합로공학선행연구소)

**P1-pl.044**

**Atomic data and CR modeling for transport and spectroscopic modeling of fusion plasma** / KWON Duck-Hee<sup>\*1</sup> (<sup>1</sup>Nuclear Data Center, Korea Atomic Energy Research Institute)

**P1-pl.045**

**Correlation of effective polytropic index and anisotropic electron temperature in a magnetically expanding plasma** / CHUNG K. S.<sup>1</sup>, KIM June Young<sup>1</sup>, CHUNG Kyoung-Jae<sup>\*1</sup>, HWANG Y. S.<sup>1</sup> (<sup>1</sup>Department of Nuclear Engineering, Seoul National University)

**P1-pl.046**

**Proof of principle study on charge separation for direct energy conversion of charged particles in divertor region** / CHUNG K. S.<sup>1</sup>, KIM Seoungcheol<sup>1</sup>, KIM June Young<sup>1</sup>, CHUNG Kyoung-Jae<sup>\*1</sup>, HWANG Y. S.<sup>1</sup> (<sup>1</sup>Department of Nuclear Engineering, Seoul National University)

**P1-pl.047**

**Conceptual Design of Lower Hybrid Current Drive for KSTAR** / SEONG Taesik<sup>1</sup>, HWANG Jihyun<sup>1</sup>, HA Gwanghee<sup>2</sup>, NAMKUNG Won<sup>2</sup>, CHO Moohyun<sup>\*3</sup>, KIM Jeehyun<sup>4</sup>, BAE Youngsoon<sup>4</sup> (<sup>1</sup>Department of Physics, POSTECH, <sup>2</sup>., Pohang Accelerator Laboratory, <sup>3</sup>Department of physics and Division of Advanced Nuclear Engineering, POSTECH, <sup>4</sup>., KSTAR Research Center, National Fusion Research Institute)

**P1-pl.048**

**First-principles calculations on tritium solution and diffusion in Li2TiO3** / LEE Donggyu<sup>1</sup>, ODA Takuji<sup>\*1</sup> (<sup>1</sup>Department of Nuclear Engineering,

# P1-pl.049

**Development of a simulator for release and retention behaviors of hydrogen isotopes in damaged tungsten materials** / ODA Takuji<sup>\*1</sup>, HAN Jeonghwan<sup>1</sup>, GIL Junhyoung<sup>1</sup>, PARK Sehyeok<sup>1</sup>, YANG Sojeong<sup>1</sup> (<sup>1</sup>Department of Nuclear Engineering, Seoul National University)

# P1-pl.050

**Fabrication, Joining and Proton Irradiation of SiCf/SiC for Fusion Reactor Applications** / SHARMA Amit Siddharth<sup>1</sup>, FITRIANI Pipit<sup>1</sup>, SEPTIADI Arifin<sup>1</sup>, JEONG Dong-Hyuk<sup>1</sup>, YOON Dang-Hyok<sup>\*1</sup> (<sup>1</sup>School of Materials Science and Engineering, Yeungnam University)

# P1-pl.051

**Study on the burst mode laser by Q-switching for plasma diagnostics** / YANG Jongkeun<sup>1</sup>, RAI Suresh<sup>1</sup>, SAUD Shirjana<sup>1</sup>, LEE Heonju<sup>\*1</sup> (<sup>1</sup>Department of Nuclear energy and Energy engineering, Jeju National University)

# P1-pl.052

**플라즈마 대면재용 텅스텐 합금 설계를 위한 고속대량스크리닝 실험 / 오인준<sup>1</sup>, 박동현<sup>1</sup>, 김경훈<sup>1</sup>, 이동우<sup>\*1</sup> (<sup>1</sup>성균관대학교, 기계공학부)**

# P1-pl.053

**Fabrication and Testing of 3D Metal Printing Mockups for Plasma Facing Components of Nuclear Fusion Reactor** / KIM Suk-Kwon<sup>\*1</sup>, KIM Dong Jun<sup>1,2</sup>, PARK Seong Dae<sup>1</sup>, JIN Hyung Gon<sup>1</sup>, LEE Eo Hwak<sup>1</sup>, YOON Jae-Sung<sup>1</sup>, LEE Dong Won<sup>1</sup> (<sup>1</sup>Nuclear Fusion Technology Development Division, Korea Atomic Energy Research Institute, <sup>2</sup>Department of Mechanical Engineering, Korea University)

## P1-se

## Semiconductor physics 포스터 발표

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00

Presentation: 2017.10.25 Wednesday 18:00-19:30

Place: Exhibition Hall

### P1-se.001

**Growth of GeS single crystal by gradient temperature method** / TRAN Thi Toan<sup>1</sup>, CHO Sunglae<sup>1</sup>, Nguyen Thi Huong<sup>\*1</sup> (<sup>1</sup>Physics, Ulsan)

### P1-se.002

**Optical Properties of InAs/GaSb Multiple Quantum Wells by Photoreflectance Spectroscopy** / ALYAMANI Somaya<sup>1</sup>, KIM Jong Su<sup>\*1</sup>, SO Mo Geun<sup>1</sup>, HYEON Ku Tae<sup>1</sup>, SHIN Jae Cheol<sup>1</sup>, LEE Sang Jun<sup>2</sup>, KIM Jun Oh<sup>2</sup> (<sup>1</sup>Department of Physics, Yeungnam University, <sup>2</sup>Division of Convergence Technology, Korea Research Institute of Standards and Science)

### P1-se.003

**3차원 LED의 역방향 누설전류의 원인 및 그 해결 방안 분석 Analysis on anomalous reverse biased leakage current in 3-dimensional LEDs** / 우기영<sup>1</sup>, 심영출<sup>1</sup>, 이상원<sup>1</sup>, 임승혁<sup>2</sup>, 조용훈<sup>\*1</sup> (<sup>1</sup>한국과학기술원 (KAIST), 물리학과, <sup>2</sup>Department of physics, chemistry and biology (IFM), Linköping University)

### P1-se.004

**Temperature dependent-photoreflectance of InSb/GaSb quantum dot** / SO Mo Geun<sup>1</sup>, KIM Jong Su<sup>\*1</sup>, DAHIYA Vinita<sup>2,3</sup>, KRISHNA Sanjay<sup>2,3</sup>, LEE Sang Jun<sup>4</sup>, KIM Jun Oh<sup>4</sup> (<sup>1</sup>Department of Physics, Yeungnam University, <sup>2</sup>Center for High Technology Materials, University of New Mexico, <sup>3</sup>Department of Electrical and Computer Engineering, Ohio State University, <sup>4</sup>Division of Convergence Technology, Korea Research Institute of Standards and Science)

### P1-se.005

**Optical properties of InAs/GaAsSb submonolayer quantum dots by photoreflectance spectroscopy** / KIM Min Seak<sup>1</sup>, SO Mo Geun<sup>1</sup>, KO Byoungsoo<sup>1</sup>, KIM Jong Su<sup>\*1</sup>, KIM Yeongho<sup>2</sup>, LEE Seung Hyun<sup>3</sup>, Christiana B. Honsberg<sup>4</sup> (<sup>1</sup>Department of Physics, Yeungnam University, <sup>2</sup>Division of Convergence Technology, Korea Research Institute of Standards and Science, <sup>3</sup>Department of Electrical and Computer Engineering, Ohio State University, <sup>4</sup>School of Electrical, Computer and Energy Engineering, Arizona State University)

### P1-se.006

**Boron nitride nanotube as an intermediate layer for high performance light-emitting diodes** / 서태훈<sup>1</sup>, 이건희<sup>1</sup>, 김준희<sup>1</sup>, 여동규<sup>1</sup>, 김희수<sup>1</sup>, 황재훈<sup>1</sup>, 김명종<sup>1</sup>, 서은경<sup>\*2</sup> (<sup>1</sup>한국과학기술연구원 전북분원, 양자응용복합소재 연구센터, <sup>2</sup>전북대학교, 반도체화학공학부)

## P1-se,007

**Influence of the surface morphology of the AlN buffer layer on the properties of GaN epilayer growth on Si(111) substrate.**  
/ KIM Jongock<sup>1</sup>, LIM Keeyoung<sup>\*1</sup> (<sup>1</sup>Department of Semiconductor Science and Technology, Semiconductor Physics Research Center, Chonbuk National University)

## P1-se,008

**Facile growth of high-quality InSb thin films on GaAs (001) substrates by using In<sub>1-x</sub>Al<sub>x</sub>Sb continuously-graded buffer layer** / KANG Sooseok<sup>1,2</sup>, SHIN Sanghoon<sup>1</sup>, SONG Jindong<sup>1</sup>, CHOI Suk-Ho<sup>\*2</sup> (<sup>1</sup>Department of Applied Physics, Kyung Hee University, <sup>2</sup>Center for Opto-Electronic Materials and Devices, Korea Institute of Science and Technology)

## P1-se,009

**조성이 Al<sub>x</sub>Ga<sub>1-x</sub>N 화합물반도체 박막의 결정구조와 광학적 특성에 미치는 영향** / 김대중<sup>1</sup>, 이종원<sup>\*2</sup> (<sup>1</sup>한밭대학교, 기초과학부, <sup>2</sup>한밭대학교, 신소재공학과)

## P1-se,010

**Sn을 촉매로 성장된 Wurtzite CdTe 나노선** / 최선빈<sup>1</sup>, 송만석<sup>1</sup>, 김용<sup>\*1</sup> (<sup>1</sup>동아대학교, 물리학과)

## P1-se,011

**Size-dependent photoluminescence and lifetime in CdSe nanocrystals** / KIM Sung Hun<sup>1</sup>, MAN Minh Tan<sup>1</sup>, LEE Hong Seok<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chonbuk National University)

## P1-se,012

**micro-PL을 이용한 Wurtzite ZnTe 나노선의 밴드갭 측정** / 송만석<sup>1,2</sup>, 최선빈<sup>1</sup>, 김용<sup>\*1</sup> (<sup>1</sup>동아대학교, 물리학과, <sup>2</sup>대구경북과학기술원, 신물질과학전공)

## P1-se,013

**Si 기판 위에 성장한 CdTe/ZnTe 양자점에서 CdTe 두께에 따른 특성 연구** / 임기홍<sup>1</sup>, 최진철<sup>1</sup>, 이흥석<sup>\*2</sup> (<sup>1</sup>연세대학교, 물리학과, <sup>2</sup>전북대학교, 물리학과)

## P1-se,014

**차세대 전력 반도체 소자용 후막 GaN 에피층 성장과 특성** / 유명선<sup>1</sup>, 진유신<sup>1</sup>, 김하림<sup>1</sup>, 임주현<sup>1</sup>, 박상훈<sup>2</sup>, 배승근<sup>2</sup>, 전인준<sup>2</sup>, 전현수<sup>2,3</sup>, 김경화<sup>2,3</sup>, 양민<sup>2</sup>, 이삼녕<sup>2</sup>, 안형수<sup>\*2,3</sup>, 김석환<sup>4</sup> (<sup>1</sup>한국해양대학교, 전자전기정보공학부 전자소재공학전공, <sup>2</sup>한국해양대학교, 전자소재공학과, <sup>3</sup>한국해양대학교, 화합물반도체공정기술센터, <sup>4</sup>안동대학교, 물리학과)

## P1-se,015

**고품질 후막 AlN 성장을 위한 HVPE AlN 에피층 성장** / 전인준<sup>1</sup>, 배승근<sup>1</sup>,

전현수<sup>1,2</sup>, 김경화<sup>1,2</sup>, 이재학<sup>1,3</sup>, 양민<sup>1</sup>, 이삼녕<sup>1</sup>, 안형수<sup>\*1,2</sup>, 김석환<sup>4</sup> (<sup>1</sup>한국해양대학교, 전자소재공학과, <sup>2</sup>한국해양대학교, 화합물반도체공정기술센터, <sup>3</sup>재단법인 부산테크노파크, 파워반도체센터, <sup>4</sup>안동대학교, 물리학과)

## P1-se,016

**혼합소스 HVPE 방법으로 성장한 Mg-doped AlN의 Mg 의존성** / 배승근<sup>1</sup>, 전인준<sup>1</sup>, 전현수<sup>1,2</sup>, 김경화<sup>1,2</sup>, 양민<sup>1</sup>, 이삼녕<sup>1</sup>, 안형수<sup>\*1,2</sup>, 이재학<sup>1,3</sup>, 김석환<sup>4</sup> (<sup>1</sup>한국해양대학교, 전자소재공학과, <sup>2</sup>한국해양대학교, 화합물반도체공정기술센터, <sup>3</sup>재단법인 부산테크노파크, 파워반도체센터, <sup>4</sup>안동대학교, 물리학과)

## P1-se,017

**전자차단층에서 정공 트랩에 의한 AlGaIn 계열 깊은 자외선 발광다이오드의 비정상적 광전류 역전** / 임승영<sup>1</sup>, 김태수<sup>1</sup>, 박용근<sup>1</sup>, 정건우<sup>1</sup>, 문영부<sup>2</sup>, 송정훈<sup>\*1</sup> (<sup>1</sup>공주대학교, 물리학과, <sup>2</sup>(주)유제이엘)

## P1-se,018

**Planar구조의 Perovskite태양전지 응용을 위한 진공증착된 NiOx p-type 산화물 반도체 박막 연구** / 정우일<sup>1</sup>, 오정석<sup>1</sup>, 차덕준<sup>1</sup>, 배수현<sup>2</sup>, 이상원<sup>2</sup>, 강윤목<sup>3</sup>, 홍진표<sup>4</sup>, 양정엽<sup>\*1</sup> (<sup>1</sup>군산대학교, 물리학과, <sup>2</sup>고려대학교, 신소재공학과, <sup>3</sup>고려대학교, KU-KIST 그린스쿨, <sup>4</sup>한양대학교, 물리학과)

## P1-se,019

**Effect of Oxide-Nitride-Oxide Thickness on Coupling Ratio and Back Tunneling in NAND Flash Memories** / KIM Jihun<sup>1</sup>, LEE Jongseop<sup>1</sup>, KIM Minwon<sup>1</sup>, PARK Jeagun<sup>\*1</sup> (<sup>1</sup>Department of Electronic Engineering, Hanyang University)

## P1-se,020

**Contact Resistance of AlGaIn/GaN Schottky Electrode** / YANG Jeon Wook<sup>\*1</sup>, PARK Yong Woon<sup>2</sup> (<sup>1</sup>School of Semiconductor and Chemical Engineering, Semiconductor Physics Research Center, Chonbuk University, <sup>2</sup>전북대학교, 반도체화학공학부)

## P1-se,021

**Cu 불순물이 도핑된 p형 NiO 소재의 Cu 불순물 준위 분석** / 박성곤<sup>1</sup>, 방준호<sup>2</sup>, 이기문<sup>\*1</sup> (<sup>1</sup>Department of Physics, Kunsan National University, <sup>2</sup>Materials Research Center for Element Strategy, Tokyo Institute of Technology)

## P1-se,022

**V 불순물 치환을 통한 p형 NiWO<sub>4</sub>의 전도성 산화물의 합성 연구** / 양보라<sup>1</sup>, 박성곤<sup>1</sup>, 방준호<sup>2</sup>, 이기문<sup>\*1</sup> (<sup>1</sup>Department of Physics, Kunsan National University, <sup>2</sup>Materials Research Center for Element Strategy, Tokyo Institute of Technology)

## P1-se,023

**Effect of Al-dopants on the electrical and optical properties of ZnSnO-based thin-film-transistors** / HWANG Sangbin<sup>1</sup>, LEE Hosun<sup>\*1</sup>,

JUNG Daeho<sup>1</sup>, SO Hyeonseob<sup>1</sup> (<sup>1</sup>경희대학교, 물리학과)

**P1-se,024**

극저온 칼로리미터를 이용한 미세 섬광 검출기에서 **Luke-Neganov** 포논 증폭기 최적 설계에 대한 연구 / 정건우<sup>1</sup>, 박용근<sup>1</sup>, 김태수<sup>1</sup>, 임승영<sup>1</sup>, 김용함<sup>2</sup>, 이성훈<sup>2</sup>, 전진아<sup>2</sup>, 김소라<sup>2</sup>, 송정훈<sup>\*1</sup> (<sup>1</sup>공주대학교, 물리학과, <sup>2</sup>기초과학연구원, 지하실험연구단)

**P1-se,025**

**Electronic and optoelectronic performances from vertically stacked MoS2/p+-Si heterojunction diodes** / SONG Da Ye<sup>1</sup>, CHU Dongil<sup>1</sup>, KIM Eun Kyu<sup>\*1</sup> (<sup>1</sup>Department of Physics, Hanyang University)

**P1-se,026**

**The influence of the mesoporous TiO2 layer on the performance of perovskite solar cells** / OH JeongSeok<sup>1</sup>, JUNG Wooll<sup>1</sup>, CHA Dukjoon<sup>1</sup>, HYEON Daseul<sup>2</sup>, KIM Taeyoon<sup>2</sup>, BAEK Gwangho<sup>2</sup>, KO Wonbae<sup>2</sup>, YANG Seungmo<sup>2</sup>, HONG Jinpyo<sup>2</sup>, YANG JungYup<sup>\*1</sup> (<sup>1</sup>Department of Physics, Kunsan National University, <sup>2</sup>Department of Physics, Hanyang University)

**P1-se,027**

**Enhancement of the Magnetic Properties of the Double MgO based p-MTJ at Annealing Temperature of 400°C by inserting Ruthenium Diffusion Barrier** / 정기형<sup>1</sup>, 전한솔<sup>3</sup>, 이동기<sup>2</sup>, 최진영<sup>2</sup>, Kei Kondo<sup>2</sup>, 백종웅<sup>2</sup>, 박재근<sup>\*1,2,3</sup> (<sup>1</sup>한양대학교, 융합전자공학부, <sup>2</sup>한양대학교, 전자컴퓨터통신공학과, <sup>3</sup>한양대학교, 나노반도체공학과)

**P1-se,028**

**Electrical characterization of CH3NH3PbBr3 Single Crystal** / 우희철<sup>1</sup>, 최진우<sup>1</sup>, 진상현<sup>1,2</sup>, 이창열<sup>\*1</sup> (<sup>1</sup>광주과학기술원, 고등광기술연구소, <sup>2</sup>전북대학교, 물리학과)

**P1-se,029**

**Two-terminal capacitor-less memory with vertical thyristor structure** / YOO Jisoo<sup>1</sup>, OH Gyujin<sup>1</sup>, SONG Seunghyun<sup>2</sup>, YOO Sangdong<sup>2</sup>, SHIM Taehun<sup>2</sup>, KIM Eunkyu<sup>\*1</sup> (<sup>1</sup>Department of Physics, Hanyang University, <sup>2</sup>Department of Electronic Engineering, Hanyang University)

**P1-se,030**

**Observation of 2 dimensional semiconductors with nearfield scanning spectroscopy system** / AHN Seonghun<sup>1</sup>, KIM Minkwan<sup>1</sup>, PARK Chunghyun<sup>1</sup>, CHO Yonghoon<sup>\*1</sup> (<sup>1</sup>Department of Physics, KAIST)

**P1-st**

Statistical physics  
포스터 발표

Hanging posters: 2017.10.25 Wednesday 13:00 - 10.26 Thursday 12:00

Presentation: 2017.10.25 Wednesday 18:00-19:30

Place: Exhibition Hall

**P1-st,001**

**GRIFFITH PHASES IN C.ELEGANS NEURAL NETWORK** / LE Anh Quang<sup>1</sup>, LEE Jae Woo<sup>\*1</sup>, JUNG Nam<sup>1</sup>, LEE Tae Ho<sup>1</sup>, CHO Eunsung<sup>1</sup> (<sup>1</sup>PHYSICS, INHA UNIVERSITY)

**P1-st,002**

**Super-Helical filaments at surfaces: Kinetics and Elastic responses** / CHAE Min-Kyung<sup>1</sup>, KIM Yunha<sup>1</sup>, JOHNER Albert<sup>2</sup>, LEE Nam-Kyung<sup>\*1</sup> (<sup>1</sup>Physics, Sejong University, <sup>2</sup>Physics, Institute Charles Sadron)

**P1-st,003**

**Non-Enclaves Percolation on ER network and its critical behavior** / PARK Eunkyu<sup>1</sup>, GWAK Sang-hwan<sup>1</sup>, GOH K.-I.<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea university)

**P1-st,004**

**Mathematical description of link prediction methodology in terms of local similarity index** / AHN Min-Woo<sup>1</sup>, JUNG Woo-Sung<sup>\*1,2,3</sup> (<sup>1</sup>POSTECH, 물리학과, <sup>2</sup>POSTECH, 산업경영공학과, <sup>3</sup>APCTP, APCTP)

**P1-st,005**

국내 대중가요 노랫말을 바탕으로 한 작사가 네트워크 분석 / 김영진<sup>1</sup>, 박영재<sup>1</sup>, 손승우<sup>\*1</sup> (<sup>1</sup>한양대학교, 응용물리학과)

**P1-st,006**

**What is going on in deep learning?** / KIM Dongkyum<sup>1</sup>, JEONG Hawoong<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology)

**P1-st,007**

**Symbolic Transfer Entropy를 이용한 Antarctic Circumpolar Wave 시계열 데이터 분석** / 오민기<sup>1</sup>, 김세현<sup>1</sup>, 김수용<sup>1</sup> (<sup>1</sup>한국과학기술원, 물리학과)

**P1-st,008**

**Trade volume distributions in the country and product space of international trade** / 최성국<sup>1</sup>, 이덕선<sup>\*1</sup> (<sup>1</sup>인하대학교, 물리학과)

**P1-st,009**

**Evolutionary prisoner's dilemma game on a cycle with long-range**

## P1-st.010

**Multidimensional characteristic of heterogeneous networks and its effect on dynamic fluctuations** / YOO Hyung-Ha<sup>1</sup>, LEE Deok-Sun<sup>\*1</sup>  
(<sup>1</sup>Department of Physics, Inha University)

## P1-st.011

**Structural Lethality of Metabolic Reactions across Species** / LEE Mi Jin<sup>1</sup>, LEE Deok-Sun<sup>\*1</sup> (<sup>1</sup>Department of Physics, Inha University)

## P1-st.012

**구성 정보 분석에서 나타나는 풍경 이미지에서의 황금비율** / 서민경<sup>1</sup>, 신인섭<sup>1</sup>, 한승기<sup>\*1</sup> (<sup>1</sup>충북대학교, 물리학과)

## P1-st.013

**막걸기 모형의 생성함수를 통한 게임 시스템에서의 강화에 대한 통계적 분석** / 채희승<sup>\*1</sup> (<sup>1</sup>한국과학기술정보연구원, 융합연구플랫폼개발실)

## P1-st.014

**Fundamental Diagram of TASEP with Local Defect and ZRP Hopping** / HA Meesoon<sup>\*1</sup>, SOH Hyungjoon<sup>2</sup>, JEONG Hawoong<sup>2</sup> (<sup>1</sup>Department of Physics Education, Chosun University, <sup>2</sup>Department of Physics, KAIST)

## P1-st.015

**Critical informative clustering in deep learning** / 송주용<sup>1,2,3</sup>, MARSILI Matteo<sup>3</sup>, 조정효<sup>\*1,2,4</sup> (<sup>1</sup>아시아태평양이론물리센터, JRG, <sup>2</sup>포항공과대학교, 물리학과, <sup>3</sup>Abdus-Salam International Centre for Theoretical Physics, Quantitative Life Science, <sup>4</sup>고등과학원, 계산과학부)

## P1-st.016

**Critical behaviors of the CI percolation on random networks** / KIM Soo-Jeong<sup>1</sup>, GOH Kwang-II<sup>\*1</sup> (<sup>1</sup>Department of Physics, Korea University)

## P1-st.017

**Confined Polymers on a Square Lattice** / LEE Jae Hwan<sup>1</sup>, LEE Julian<sup>1</sup>, KIM Seung-Yeon<sup>\*2</sup> (<sup>1</sup>School of Systems Biomedical Science and Department of Bioinformatics, Soongsil University, <sup>2</sup>School of Liberal Arts and Sciences, Korea National University of Transportation)

## P1-st.018

**Improved Parallel Algorithm for Enumeration of Geometric Quantities of a Lattice Polymer** / LEE Jae Hwan<sup>1</sup>, LEE Julian<sup>1</sup>, KIM Seung-Yeon<sup>\*2</sup> (<sup>1</sup>School of Systems Biomedical Science and Department of Bioinformatics, Soongsil University, <sup>2</sup>School of Liberal Arts and Sciences, Korea National University of Transportation)

## P2-ap.1

Applied physics: Nanomaterials and nanodevices  
포스터 발표

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

## P2-ap.101

**Anomalous polarized emission in low frequency resonance Raman spectra of monolayer WS<sub>2</sub>** / YANG Jinho<sup>1</sup>, LEE Jae-Ung<sup>1</sup>, KIM Kangwon<sup>1</sup>, CHEONG Hyeonsik<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sogang University)

## P2-ap.102

**Polarization dependent Raman studies of ReSe<sub>2</sub>** / KIM Keunui<sup>1</sup>, LIM Soo Yeon<sup>1</sup>, CHEONG Hyeonsik<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sogang University)

## P2-ap.103

**Raman study of interlayer interaction of 2H- and 3R-MoS<sub>2</sub>** / NA Woongki<sup>1</sup>, KIM Kangwon<sup>1</sup>, LEE Jae-Ung<sup>1</sup>, CHEONG Hyeonsik<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sogang University)

## P2-ap.104

**Control of copper nanowire network properties and application to transparent conducting layer in LED** / YOON Hahnjoo<sup>1</sup>, PARK Jinsub<sup>\*2</sup> (<sup>1</sup>Department of Electronics and Computer Engineering, Hanyang University, <sup>2</sup>Department of Electronics Engineering, Hanyang University)

## P2-ap.105

**Thermoacoustic characteristics of MWCNT sheet Speaker** / KOO Jahoon<sup>1</sup>, JUNG Moonyoung<sup>1</sup>, PARK Jungwoo<sup>1</sup>, AHN Hyesun<sup>1</sup>, AHN Seungeon<sup>\*1</sup> (<sup>1</sup>Department of Nano-Optical Engineering, Korea Polytechnic University)

## P2-ap.106

**Electrical properties of artificial skin based on CNT Sheet** / KIM Pansu<sup>1</sup>, NOH Youngji<sup>2</sup>, HONG Seunghyeon<sup>1</sup>, SEO sejin<sup>1</sup>, AHN Seungeon<sup>\*1</sup> (<sup>1</sup>Nano-Optical Engineering, Korea Polytechnic University, <sup>2</sup>Advanced Convergence Technology, Korea Polytechnic University)

## P2-ap.107

**Improved On/Off ratio and stability of nonvolatile resistive memories based on P(VDF-TrFE)/ZnO nanocomposites** / KIM Tae Yeon<sup>1</sup>, ANOOP Gopinathan<sup>1</sup>, JO Ji Young<sup>\*1</sup> (<sup>1</sup>School of Materials Science and Engineering, Gwangju Institute of Science and Technology)

## P2-ap.108

**Gd를 치환한 나노 페라이트의 가열시간에 따른 온열효과** / 박정호<sup>1</sup>,



최현경<sup>1</sup>, 손지혜<sup>1</sup>, 김해리<sup>1</sup>, 이승엽<sup>1</sup>, 김철성<sup>\*1</sup> (<sup>1</sup>국민대학교, 물리학과)

#### P2-ap.109

**Study on non-uniform photoluminescence signal of monolayer WS<sub>2</sub>** / KWON Yongjae<sup>1</sup>, YANG Jinho<sup>1</sup>, KIM Kangwon<sup>1</sup>, CHEONG Hyeonsik<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sogang University)

#### P2-ap.110

**Raman studies on polytypes of few-layer gallium selenide** / LIM Soo Yeon<sup>1</sup>, LEE Jae-Ung<sup>1</sup>, KIM Jung Hwa<sup>2</sup>, LIANG Liangbo<sup>3</sup>, NGUYEN Thi Thanh Huong<sup>4</sup>, LEE Zonghoon<sup>2</sup>, CHO Sunglae<sup>4</sup>, CHEONG Hyeonsik<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sogang University, <sup>2</sup>Department of Materials Science and Engineering, UNIST, <sup>3</sup>Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, <sup>4</sup>Department of Physics and Energy Harvest Storage Research Center, University of Ulsan)

#### P2-ap.111

**산소 플라즈마 건식 식각을 이용한 선폭 감소 현상 연구** / 김영호<sup>1</sup>, 진상호<sup>1</sup>, 김한울<sup>2</sup>, 임동석<sup>2</sup>, 김윤섭<sup>1</sup>, 김길호<sup>\*1</sup> (<sup>1</sup>성균관대학교, 전자전기공학부, <sup>2</sup>성균관대학교, 성균나노기술학과)

#### P2-ap.112

**Raman signatures of antiferromagnetic phase transitions in few-layer NiPS<sub>3</sub>** / KIM Kangwon<sup>1</sup>, LIM Soo Yeon<sup>1</sup>, LEE Jae-Ung<sup>1</sup>, LEE Sungmin<sup>2,3</sup>, KIM Tae Yun<sup>2</sup>, RYOO Ji Hoon<sup>2</sup>, KIM Pilkwang<sup>2</sup>, PARK Cheol-Hwan<sup>2,4</sup>, PARK Je-Geun<sup>2,3</sup>, CHEONG Hyeonsik<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sogang University, <sup>2</sup>Department of Physics and Astronomy, Seoul National University, <sup>3</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>4</sup>Center for Theoretical Physics, Seoul National University)

#### P2-ap.113

**E-beam lithography와 O<sub>2</sub> 플라즈마 식각 공정을 이용한 2차원 물질 나노갭 형성** / 남궁선<sup>1</sup>, 정진호<sup>1</sup>, 임동석<sup>1</sup>, 김한울<sup>1</sup>, 김윤섭<sup>1</sup>, 이윤태<sup>1</sup>, 김길호<sup>\*1</sup> (<sup>1</sup>성균관대학교, 성균나노과학기술학과 (SAINT), 전자전기공학부)

#### P2-ap.114

**Fabrication of ZnO-ZnS@polyaniline nanohybrid on FTO glass for enhanced Hydrogen generation** / BRAYEK Amine<sup>1</sup>, KIM Hyun<sup>1</sup>, YANG Beelyong<sup>\*1</sup> (<sup>1</sup>Department of Advanced Materials and System Engineering, Kumoh National Institute of Technology)

#### P2-ap.115

**Band alignment offsets of PANI/ZnS/ZnO Heterojunctions** / BRAYEK Amine<sup>1</sup>, KIM Hyun<sup>1</sup>, YANG Beelyong<sup>\*1</sup> (<sup>1</sup>Department of Advanced Materials and System Engineering, Kumoh National Institute of Technology)

#### P2-ap.116

**Photo-electrochemical reduction of carbon dioxide to methanol using Ag-loaded NiO/BaTiO<sub>3</sub>/FTO** / BRAYEK Amine<sup>1</sup>, KIM Hyun<sup>1</sup>, YANG Beelyong<sup>\*1</sup> (<sup>1</sup>Department of Advanced Materials and System Engineering, Kumoh National Institute of Technology)

#### P2-ap.117

**Optical property of Cu-ion-implanted perovskite zirconate nanostructures** / LIM Junhwi<sup>1</sup>, NOH Miru<sup>1</sup>, WI Sangwon<sup>1</sup>, CHUNG Jinseok<sup>1</sup>, LEE Yunsang<sup>\*1</sup>, LEE Chanyoung<sup>2</sup> (<sup>1</sup>Department of Physics, Soongsil University, <sup>2</sup>Ion Beam, Korea Atomic Energy Research Institute)

#### P2-ap.118

**Size Dependent Photothermal Explosive behavior of Au Nanoparticles driven by ns Laser Pulse** / CHOI Jung Won<sup>1</sup>, HAN Seong Hyun<sup>1</sup>, LEE Su Yong<sup>2</sup>, KANG Hyun Chol<sup>3</sup>, NOH Do Young<sup>\*1</sup> (<sup>1</sup>School of Materials Science and Engineering & Department of Physics and Photon Science, Gwangju Institute of Science & Technology(GIST), <sup>2</sup>Beamline Department, Pohang Accelerator Laboratory(PAL), <sup>3</sup>Department of Materials Science and Engineering, Chosun University)

#### P2-ap.119

**Growth Mechanism Observation of Organometallic Halide Perovskite Grain on Solvent Vapor Annealing** / CHIN Sang-Hyun<sup>1,2</sup>, CHOI Jin Woo<sup>1</sup>, WOO Hee Chul<sup>1</sup>, LEE Hong Seok<sup>2</sup>, LEE Chang-Lyul<sup>\*1</sup> (<sup>1</sup>Advanced Photonics Research Institute, Gwangju Institute of Science and Technology, <sup>2</sup>Department of Physics, Chonbuk National University)

#### P2-ap.120

**Improved On/Off ratio and stability of nonvolatile resistive memories based on P(VDF-TrFE)/ZnO nanocomposites** / KIM Tae Yeon<sup>1</sup>, ANOOP Gopinathan<sup>1</sup>, SON Yeong Jun<sup>1</sup>, KIM Soo Hyeon<sup>2</sup>, LEE Eunji<sup>2</sup>, JO Ji Young<sup>\*1</sup> (<sup>1</sup>Materials Science and Engineering, Gwangju Institute of Science and Technology, <sup>2</sup>Analytical Science and Technology, Chungnam National University)

#### P2-ap.121

**Room-temperature detection of hydrogen peroxide vapor based on porphyrin nanofilm sensor** / 이동진<sup>1</sup>, 하예진<sup>1</sup>, 변영태<sup>\*1</sup> (<sup>1</sup>센서시스템 연구센터, 한국과학기술연구원)

#### P2-ap.122

**Fabrication of silicon nano-pillar structures by self-aligned Pt nano-droplet mask and dry etching.** / KIM Jongock<sup>1</sup>, LIM Keeyoung<sup>\*1</sup> (<sup>1</sup>Department of Semiconductor Science and Technology, Semiconductor Physics Research Center, Chonbuk National University)

P2-ap.123

나노구조 산화막을 이용한 사고저항성 지르코늄 합금의 산화거동 및 물리적 특성 평가 / 박양정<sup>1</sup>, 김정우<sup>1</sup>, 조성오<sup>1</sup> (<sup>1</sup>KAIST, 원자력및양자공학과)

P2-ap.124

**Surface Potential of Graphene depending on Substrates and Surface Treatments** / HWANG Sungmin<sup>1</sup>, CHOI Moonkang<sup>1</sup>, PYO Jeongsang<sup>1</sup>, KIM Seung Geun<sup>1</sup>, LEE Minbaek<sup>\*1</sup> (<sup>1</sup>Department of Physics, Inha University)

P2-ap.125

**Proton Irradiation Damage Effects to the Zircaloy with nanostructured oxide layer** / 김정우<sup>\*1</sup>, 박양정<sup>2</sup>, 조성오<sup>3</sup> (<sup>1</sup>Nuclear & Quantum Engineering, KAIST, <sup>2</sup>Nuclear & Quantum Engineering, KAIST, <sup>3</sup>Nuclear & Quantum Engineering, KAIST)

P2-ap.126

**ZnO nanoflakes/Polydimethylsiloxane Composite Based Piezoelectric and Triboelectric Hybrid Nanogenerators** / HE Wen<sup>2</sup>, NGOC Huynh Van<sup>1</sup>, KANG Daejoon<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University, <sup>2</sup>Institute of Basic Science, Sungkyunkwan University)

P2-ap.2

Applied physics: Spin and magnetism  
포스터 발표

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

P2-ap.201

**Thickness dependence physical properties of Fe3O4 films grown on SrTiO3 (110) and MgAl2O4 (110)/(001) substrates by PLD** / GHIMIRE Santosh<sup>1</sup>, 이영진<sup>1</sup>, 안승휘<sup>1</sup>, 도중희<sup>\*1</sup> (<sup>1</sup>Department of Physics, Kyungpook National University)

P2-ap.202

**BaFe2(P04)2 powders and thin films for Quantum Anomalous Hall effect** / JUNG Beonsung<sup>1</sup>, OH Juhyun<sup>1</sup>, KIM Donghun<sup>1</sup>, JEONG Junghyun<sup>\*1</sup>, BAE Jongseong<sup>2</sup>, CHANG Seohyoung<sup>3</sup> (<sup>1</sup>Department of Physics, Pukyong National University, <sup>2</sup>Busan Center, Korea Basic Science Institute, <sup>3</sup>Department of Physics, Chung-Ang University)

P2-ap.203

**Magnetoresistance Properties of Hybrid GMR-SV Films with Superconducting Nb, YBCO Buffer Layers** / YANG Woo-Il<sup>1</sup>, CHOI Jong-Gu<sup>2</sup>, LEE Sang-Suk<sup>\*2</sup> (<sup>1</sup>Department of Applied Physics and Electronics, Sangji University, <sup>2</sup>Department of Oriental Biomedical Engineering, Sangji University)

P2-ap.204

**The analysis of spin Hall assisted magnetization reversal based on Stoner Wohlfarth model** / YUN Changjin<sup>1</sup>, KIM Jiho<sup>1</sup>, YOON Jinsu<sup>2</sup>, KIM Mingu<sup>2</sup>, RHIE Kungwon<sup>\*1,2</sup> (<sup>1</sup>Department of Applied physics, Korea University, Sejong, <sup>2</sup>Department of Display and Semiconductor physics, Korea University, Sejong)

P2-ap.205

**Changed Characteristic of Perpendicular Magneto Anisotropy(PMA) in Ta/Pt(t)/CoFeB/MgO Structure** / KIM Jiho<sup>1</sup>, YUN Changjin<sup>1</sup>, YOON Jinsu<sup>2</sup>, KIM Mingu<sup>2</sup>, RHIE Kungwon<sup>\*1,2</sup> (<sup>1</sup>Korea University, Sejong, Department of Applied Physics, <sup>2</sup>Korea University, Sejong, Department of Display and Semiconductor Physics)

P2-ap.206

**Spin chemical potentials in a strong Rashba system up to room temperature** / LEE Joo-hyeon<sup>1,2</sup>, KIM Hyung-jun<sup>2</sup>, Chang Joonyeon<sup>2</sup>, Han Suk Hee<sup>2</sup>, Koo Hyun Cheol<sup>\*1,2</sup> (<sup>1</sup>Korea University, KU-KIST Graduate School, <sup>2</sup>한국과학기술연구원(KIST), 스피너융합연구단(Center for Spintronics))

P2-ap.207

**Study on angular dependence of interfacial Dzyaloshinskii-Moriya interaction** / KIM Woo-Yeong<sup>1</sup>, GWEON Hyung-Keun<sup>1</sup>, KIM Dae-Yun<sup>2</sup>, CHOI Hyeok-Cheol<sup>2</sup>, PARK Min-ho<sup>2</sup>, PARK Yong-Keun<sup>2</sup>, LIM Sang-Ho<sup>1</sup>, CHO E Sug-Bong<sup>2</sup>, YOU Chun-Yeol<sup>3</sup>, LEE Kyung-Jin<sup>\*4</sup> (<sup>1</sup>Department of Materials Science and Engineering, Korea University, <sup>2</sup>Department of Physics and Institute of Applied Physics, Seoul National University, <sup>3</sup>Emerging Materials Science, Daegu Gyeongbuk Institute of Science & Technology, <sup>4</sup>KU-KIST Graduate School of Converging Science and Technology, Korea University)

P2-ap.3

Applied physics: Devices and application  
포스터 발표

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

P2-ap.301

**온도구배가 있는 열전물질의 전기저항의 새로운 측정방법** / 전현구<sup>1,2</sup>, 김용규<sup>\*1</sup>, 오병성<sup>2</sup> (<sup>1</sup>한국표준과학연구원, 기반표준본부 온도센터, <sup>2</sup>충남대학교, 물리학과)

P2-ap.302

**High-performance microwave absorber, based on embedded resistors** / KIM Young Ju<sup>1</sup>, HWANG Ji Sub<sup>1</sup>, BUI Xuan Khuyen<sup>1</sup>, SON Hye Mi<sup>1</sup>, RHEE Joo Yul<sup>2</sup>, KIM Ki Won<sup>3</sup>, PARK Sang Yoon<sup>4</sup>, LEE YoungPak<sup>\*1</sup> (<sup>1</sup>Department of Physics, Hanyang University, <sup>2</sup>Department of Physics, Sungkyunkwan University, <sup>3</sup>Department of Information Display, Sunmoon University, <sup>4</sup>Nano-Bio Convergence Research Center, Advanced Institutes of Convergence Technology, Seoul National University)

P2-ap.303

**Noninvasive, Layer-selective Analysis of OLED Degradation** / 손정배<sup>1</sup>, 강주연<sup>1</sup>, 배소현<sup>1</sup>, 김성근<sup>\*1,2</sup> (<sup>1</sup>화학부, 서울대학교, <sup>2</sup>생물물리 및 화학생물학과, 서울대학교)

P2-ap.304

**Gate-tunable silicon oxide memory based on vertically integrated graphene barristor** / CHOI Jaewan<sup>1</sup>, KIM Nam-Dong<sup>2</sup>, WANG Gunuk<sup>\*1</sup> (<sup>1</sup>Korea University, KU-KIST Graduate School of Converging Science & Technology, <sup>2</sup>Korea Institute of Science and Technology, Applied Quantum Composites Research Center)

P2-ap.305

**AI 도핑에 의한 LiMn<sub>2</sub>O<sub>4</sub> 박막의 물리적 성질 및 이차전지 양극 특성 변화** / 박종호<sup>1</sup>, 김광주<sup>\*1</sup> (<sup>1</sup>건국대학교, 물리학과)

P2-ap.306

**O<sub>2</sub> 플라즈마 처리를 한 MoS<sub>2</sub> 전계효과 트랜지스터의 전기적 특성 변화** / 임중환<sup>1</sup>, RATHI Servin<sup>1</sup>, 김길호<sup>\*1</sup> (<sup>1</sup>성균관대학교, 전자전기공학부)

P2-ap.307

**Vriable Narrow Band Path Filters Depending on Temperature** / KIM Isae<sup>1</sup>, KANG Manil<sup>1</sup>, KIM ByeongCheol<sup>2</sup>, OH Cheoluk<sup>2</sup>, KIM Sokwon<sup>\*1</sup> (<sup>1</sup>department of physics, Ulsan university, <sup>2</sup>reaserch and development, Univac industry)

P2-ap.308

**Electrical Characteristics of AlGaIn/GaN HEMTs Fabricated with MgF<sub>2</sub> Passivation** / 오문식<sup>1</sup>, 김현수<sup>1</sup>, 양전욱<sup>\*1</sup> (<sup>1</sup>전북대학교, 반도체화학공학부)

P2-ap.309

**Fabrication of Cd-treated CIGS solar cell with Zn(O,S) buffer** / TANKA Rana<sup>1</sup>, KIM SeongYeon<sup>1</sup>, KIM JunHo<sup>\*1</sup>, KIM Kihwan<sup>2</sup>, YUN Jae Ho<sup>2</sup> (<sup>1</sup>Department of Physics, Incheon National University, <sup>2</sup>Photovoltaic Laboratory, Korea Institute of Energy Research)

P2-ap.310

**기계 부품 내외부 표면 검사를 위한 비전 시스템 연구** / 권경훈<sup>1</sup>, 추형곤<sup>1</sup>, 김진영<sup>1</sup>, 강준희<sup>1</sup> (<sup>1</sup>인천대학교, 물리학과)

P2-ap.311

**Fabrication of Cu-poor based CIGSe Solar Cell by Using Non-Vacuum Spray Pyrolysis** / KIM SeongYeon<sup>1</sup>, KIM JunHo<sup>\*1</sup> (<sup>1</sup>Department of Physics, Incheon National University)

P2-ap.312

**A Software Based Hysteresis Compensation using LabVIEW FPGA for Atomic Force Microscope Flexure Scanners** / ALUNDA Bernard Ouma<sup>1</sup>, CHEPKOECH Melody<sup>1</sup>, LEE Yong Joong<sup>\*1</sup> (<sup>1</sup>기계공학부, 경북대학교)

P2-ap.313

**DNA 변성에 의한 DNA 고체 박막의 굴절률 조절** / 정하영<sup>1</sup>, 홍성진<sup>1</sup>, 천승욱<sup>1</sup>, 비윤<sup>1</sup>, 오경환<sup>\*1</sup> (<sup>1</sup>연세대학교, 물리학과)

P2-ap.314

**Analysis of RBC combined with MB by using a GMR-SV Device and multi turn  $\mu$ -coil and PR  $\mu$ -channel** / CHOI Jong-Gu<sup>1</sup>, KIM Su-Hee<sup>1</sup>, J RHEE ang-Roh<sup>2</sup>, LEE San-Suk<sup>\*1</sup> (<sup>1</sup>Department of Oriental Biomedical Engineering, Sangji University, <sup>2</sup>Department of Nanophysics, Sookmyung Women's University)

P2-as

Astrophysics  
포스터 발표

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

P2-as.001 [18:20 - 18:40]

**우주선 입사량 일변화의 FFT 분석** / 조우람<sup>\*1</sup>, 신광식<sup>4</sup>, 최우석<sup>3</sup>, 박철영<sup>2</sup>, 권영준<sup>1</sup> (<sup>1</sup>연세대학교, 물리학과, <sup>2</sup>경기북과학고등학교, 물리학과, <sup>3</sup>한성과학고등학교, 물리학과, <sup>4</sup>세종과학고등학교, 물리학과)

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

#### P2-co.101

**Direct transfer of optical orbital angular momentum to non-resonantly pumped exciton-polariton quantum fluid** / KWON Min-Sik <sup>†1</sup>, OH Byoung Yong <sup>†1</sup>, GONG Su-Hyun<sup>1</sup>, KIM Je-Hyung<sup>1</sup>, KANG Hang Kyu<sup>2</sup>, KANG Sooseok<sup>2</sup>, SONG Jin Dong<sup>2</sup>, CHOI Hyounsoo <sup>\*1</sup>, CHO Yong-Hoon <sup>\*\*1</sup> (<sup>1</sup>Department of Physics and KI for the NanoCentury, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Republic of Korea, <sup>2</sup>Center for Opto-Electronic Convergence Systems, Korea Institute of Science and Technology (KIST), Seoul, Republic of Korea)

#### P2-co.102

**Top gated field effect transistor in LaAlO<sub>3</sub>/SrTiO<sub>3</sub>** / 광응수<sup>1</sup>, 김진혁<sup>2</sup>, 송종현<sup>\*1</sup> (<sup>1</sup>충남대학교, 물리학과, <sup>2</sup>한국표준과학연구원, 미래측정기술부)

#### P2-co.103

**Electrically-Controlled Carrier Guiding in Single-Channel Graphene Device** / YOON Hoon Hahn<sup>1</sup>, SONG Wonho<sup>1</sup>, LEE Jung-Yong<sup>1</sup>, PARK Kibog<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Ulsan National Institute of Science and Technology (UNIST), <sup>2</sup>School of Electrical and Computer Engineering, Ulsan National Institute of Science and Technology (UNIST))

#### P2-co.104

**Ab initio study of 2D/3D heterostructures using MoS<sub>2</sub> and Si(100)** / CHOI Hyunsoo<sup>1</sup>, CHA Janghwan<sup>1</sup>, MIN Kyung-Ah<sup>1</sup>, HONG Suklyun<sup>\*1</sup> (<sup>1</sup>Department of Physics and Graphene Research Institute, Sejong University)

#### P2-co.105

**Investigation of the effect of external electric field on WS<sub>2</sub>/Si heterostructures using first-principles calculations** / MIN Kyung-Ah<sup>1</sup>, HONG Suklyun<sup>\*1</sup> (<sup>1</sup>Department of Physics and Graphene Research Institute, Sejong University)

#### P2-co.106

**Carbon coated Fe nano-powders using thermal DC plasma** / SHINDE K. P.<sup>1</sup>, 간우섭<sup>2</sup>, 박상화<sup>2</sup>, 김태형<sup>3</sup>, 정국채<sup>\*1</sup> (<sup>1</sup>재료연구소, 나노기능분말 연구실, <sup>2</sup>금오공대, 기계공학과, <sup>3</sup>(주)디엔에이치테크, 부설 연구소)

#### P2-co.107

**Stable hydrogen species induced by low-energy proton-beam**

**irradiation in ZnO:Al** / PARK Jun Kue<sup>\*1</sup>, HWANG Young Seok<sup>1</sup>, LEE Chan Young<sup>1</sup> (<sup>1</sup>Korea Multi-purpose Accelerator Complex, Korea Atomic Energy Research Institute)

#### P2-co.108

**Effects of bending in the Kane-Mele system of a nanoribbon geometry** / KIM Hee Yeon<sup>1</sup>, JEON Gun Sang<sup>\*1</sup> (<sup>1</sup>Department of Physics, Ewha Womans University)

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

**P2-co,201**

**First-principles prediction of magnetic ground state of correlated oxides: the case for  $\text{LaMnO}_3$**  / 장승우<sup>1</sup>, 이시현<sup>1</sup>, 윤홍기<sup>1</sup>, 한명준<sup>1,2</sup>  
(<sup>1</sup>Department of Physics, KAIST, <sup>2</sup>Institute for the NanoCentury, KAIST)

**P2-co,202**

**Pressure-dependent electronic structure and magnetic properties of  $\text{GaTa}_4\text{Se}_8$  : A first-principle study** / JEONG Min Yong<sup>1</sup>, SIM Jae-Hoon<sup>1</sup>, HAN Myung Joon<sup>\*1</sup> (<sup>1</sup>Department of Physics, KAIST)

**P2-co,203**

**Topological Hall Effect in Epitaxial Ultrathin  $\text{SrRuO}_3$  film** / SOHN Byungmin<sup>1,2</sup>, KIM Bongju<sup>1,2</sup>, KIM C.<sup>\*1,2</sup> (<sup>1</sup>Center for Correlated Electron Systems (CCES), Institute for Basic Science, <sup>2</sup>Department of Physics and Astronomy, Seoul National University)

**P2-co,204**

**Renormalization of phonon frequency through Dzyaloshinskii-Moriya interaction in  $\text{Y}_2\text{Ir}_2\text{O}_7$**  / SON Jaeseok<sup>1,2</sup>, NOH Tawon<sup>\*1,2</sup> (<sup>1</sup>Center for Correlated Electron Systems (CCES), Institute for Basic Science (IBS), <sup>2</sup>Department of Physics and Astronomy, Seoul National University (SNU))

**P2-co,205**

**Lattice strain in the grain inside of  $(1-x)\text{BiFeO}_{3-x}\text{BaTiO}_3$  bulk ceramic measured by X-ray microdiffraction** / WI Sangwon<sup>1</sup>, CHUNG Jin-Seok<sup>\*1</sup> (<sup>1</sup>Department of Physics, Soongsil University)

**P2-co,206**

**Unconventional charge dynamics of a semi-metallic layered iridate investigated by THz time-domain spectroscopy** / HAN Jeongwoo<sup>1</sup>, KIM Sunwoo<sup>2</sup>, CAO C.<sup>3</sup>, WANG J. C.<sup>3,4,5</sup>, CHO Junhyung<sup>2</sup>, LEE Jongseok<sup>\*1</sup> (<sup>1</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology (GIST), <sup>2</sup>Department of Physics and Research Institute for Natural Science, Hanyang University, <sup>3</sup>Department of Physics and Astronomy, University of Kentucky, <sup>4</sup>Quantum Condensed Matter Division, Oak Ridge National Laboratory, <sup>5</sup>Department of Physics, Renmin University of China)

**P2-co,207**

**Electronic Structure Change of  $\text{NiS}_{2-x}\text{Se}_x$  in the Metal-Insulator Transition Probed by X-ray Absorption Spectroscopy**

/ JEONG Jinwon<sup>1</sup>, PARK Kyung Ja<sup>1</sup>, CHO En-Jin<sup>1</sup>, NOH Han-Jin<sup>\*1</sup>, KIM Sung Baek<sup>2</sup>, KIM Hyeong-Do<sup>3</sup> (<sup>1</sup>Department of Physics, Chonnam National University, <sup>2</sup>The College of Liberal Arts, Konyang University, <sup>3</sup>Pohang Accelerator Laboratory, Pohang University of Science and Technology)

**P2-co,208**

**Disproportionation of Ni charge valency on nickelate thin film surfaces** / LEE Jongmin<sup>1</sup>, CHOI Kyoung Soon<sup>2</sup>, LEE Tae Kwon<sup>3</sup>, KIM Sangmo<sup>4</sup>, SONG Jaesun<sup>1</sup>, BARK Chung Wung<sup>4</sup>, JUNG Jong Hoon<sup>3</sup>, LEE Jouhahn<sup>2</sup>, KIM Tae Heon<sup>5</sup>, LEE Sanghan<sup>\*1</sup> (<sup>1</sup>School of Materials Science and Engineering, Gwangju Institute of Science and Technology, <sup>2</sup>The Advanced Nano Surface Research Group, Korea Basic Science Institute, <sup>3</sup>Department of Physics, Inha University, <sup>4</sup>Department of Electrical Engineering, Gachon University, <sup>5</sup>Department of Physics, University of Ulsan)

**P2-co,209**

**A global Influence of the local ferromagnetic impurities on electronic structure of the topological insulator  $\text{Cr}_{0.08}(\text{Bi}_{0.1}\text{Sb}_{0.9})_{1.92}\text{Te}_3$**  / YOO Junghoon<sup>1,2</sup>, PARK Minseok<sup>1,2</sup>, JEON Sekye<sup>1,2</sup>, LEE Kyoungseok<sup>1,2</sup>, JOO Sanghyun<sup>1,2</sup>, KIM Jaejoon<sup>1,2</sup>, GU Genda<sup>3</sup>, LEE Jinho<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Seoul National University, <sup>2</sup>Center for Correlated Electron System, Institute for Basic Science (IBS), <sup>3</sup>CMPMS Department, Brookhaven National Laboratory)

**P2-co,210**

**Polarized optical spectroscopy study on quasi one-dimensional spin ladder systems,  $\text{BaFe}_2\text{S}_3$  and  $\text{BaFe}_2\text{Se}_3$**  / ROH Seulki<sup>1</sup>, SHIN Soohyeon<sup>1</sup>, LEE Seokbae<sup>1</sup>, LEE Myoungsoon<sup>1</sup>, SEO Yu-seong<sup>1</sup>, LEE Haneul<sup>1</sup>, PARK Tuson<sup>1</sup>, HWANG Jungseok<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University)

**P2-co,211**

**Reconstruction of the electronic structure in dimerized  $\text{IrTe}_2$**  / LEE Hwangho<sup>1,2</sup>, KO Kyung-Tea<sup>1,2</sup>, KIM Kyoo<sup>1,2</sup>, PARK Byeong-Gyu<sup>4</sup>, PARK Jae-Hoon<sup>\*1,2,3</sup> (<sup>1</sup>Department of Physics, Pohang University of Science and Technology, <sup>2</sup>Max Planck POSTECH Center for Complex Phase Materials, Pohang University of Science and Technology, <sup>3</sup>Division of Advanced Materials Science, Pohang University of Science and Technology, <sup>4</sup> $\mu$ -ARPES 4A1 Beamline, Pohang Accelerator Laboratory)

**P2-co,212**

**Magnetodielectric effect in  $\text{ErFeO}_3$  single crystals** / OH D.G.<sup>1</sup>, CHOI H.Y.<sup>1</sup>, CHOI Y.J.<sup>\*1</sup>, LEE N.<sup>1</sup> (<sup>1</sup>Department of Physics, Yonsei University)

**P2-co,213**

**Magnetic proximity effect at the interfaces of  $\text{Nd}_{1-x}\text{Sr}_x\text{MnO}_3$**



**multilayers** / RYU Sangkyun<sup>1</sup>, JEON Tae-Yeol<sup>2</sup>, CHO Jinhyung<sup>3</sup>, LEE Ho Nyung<sup>4</sup>, PARK Sungkyun<sup>1</sup>, JEEN Hyoungjeen<sup>\*1</sup> (<sup>1</sup>Department of Physics, Pusan National University, <sup>2</sup>Pohang Accelerator Laboratory, Pohang University of Science and Technology, <sup>3</sup>Department of Physics Education, Pusan National University, <sup>4</sup>Materials Science and Technology Division, Oak Ridge National Laboratory)

P2-co,214

**Magnetic and dielectric properties in double perovskite Ho<sub>2</sub>CrFeO<sub>6</sub>** / SHIN H. J.<sup>1</sup>, OH D. G.<sup>1</sup>, LEE N.<sup>1</sup>, CHOI Y. J.<sup>\*1</sup> (<sup>1</sup>Department of Physics and IPAP, Yonsei University)

P2-co,215

**Magnetic and Dielectric properties of Pb<sub>3</sub>TeCo<sub>3</sub>V<sub>2</sub>O<sub>14</sub>** / KIM J. H.<sup>1</sup>, LEE N.<sup>1</sup>, CHOI Y. J.<sup>\*1</sup> (<sup>1</sup>Department of Physics and IPAP, Yonsei University)

P2-co,216

**Anisotropy in orbitally ordered Li<sub>2</sub>RuO<sub>3</sub>** / YUN Seokhwan<sup>1,2</sup>, JO Youngjung<sup>3</sup>, PARK Je-Geun<sup>\*1,2</sup> (<sup>1</sup>Department of Physics & Astronomy, Seoul National University, <sup>2</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>3</sup>Department of Physics, Kyungpook National University)

P2-co,217

**Magnetodielectric properties of R<sub>2</sub>CoMnO<sub>6</sub> (R=Ho, Y) Single crystals** / MOON Jaeyoung<sup>1</sup>, KIM Jonghyuk<sup>1</sup>, OH Sanghyup<sup>1</sup>, LEE Nara<sup>1</sup>, CHOI Youngjai<sup>\*1</sup> (<sup>1</sup>Department of Physics, Yonsei University)

P2-co.3

Condensed matter physics: Superconductivity  
포스터 발표

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

P2-co,301

**Annealing Condition Dependence of the Superconducting Property in the protect-annealed for electron-doped Cuprates** / JUNG Woobeen<sup>1</sup>, SONG Dongjoon<sup>2</sup>, CHO Soohyun<sup>3</sup>, KIM Changyoung<sup>1</sup>, PARK Seung Ryong<sup>\*4</sup> (<sup>1</sup>Center for Correlated Electron System, Seoul National University, <sup>2</sup>Superconductivity Team, National Institute of Advanced Industrial Science and Technology, <sup>3</sup>Institute of Physics and Applied Physics, Yonsei University,, <sup>4</sup>Department of Physics, Research Institute of Basic Sciences, Incheon National University)

P2-co,302

**Doping and charge density in Cuprates** / PARK Minseok<sup>1,2</sup>, YOO Junghoon<sup>1,2</sup>, KIM Jaejoon<sup>1,2</sup>, LEE Kyoungseok<sup>1,2</sup>, JOO Sanghyun<sup>1,2</sup>, JEON Saegye<sup>1,2</sup>, LEE Jinho<sup>\*1,2</sup> (<sup>1</sup>Department of Physics, Seoul National University, <sup>2</sup>Center for Correlated Electron Systems, Institute for Basic Science)

P2-co,303

**Anisotropy of electron-phonon coupling in Rb-decorated graphene** / SHIN Woojong<sup>1,2</sup>, KIM Keun Su<sup>\*2</sup> (<sup>1</sup>Department of Physics, Pohang University of Science and Technology, <sup>2</sup>Department of Physics, Yonsei University)

P2-co,304

**Model study of Josephson plasma soliton propagation** / 김동훈<sup>1</sup>, 이재동<sup>\*1</sup> (<sup>1</sup>대구경북과학기술원, 신물질과학전공)

P2-co,305

**Optical properties of K-doped Ba-122 pnictides** / LEE Seokbae<sup>1</sup>, ROH Seulki<sup>1</sup>, SEO Yu-seong<sup>1</sup>, LEE Myoungcheon<sup>1</sup>, JUNG Eilho<sup>1</sup>, SONG Dongjoon<sup>2</sup>, EISAKI Hiroshi<sup>2</sup>, HWANG Jungseek<sup>\*1</sup> (<sup>1</sup>Department of physics, Sungkyunkwan University, <sup>2</sup>Low Temperature Physics group and Superconducting Materials group in Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology)

P2-co,306

**Optical study of Pr<sub>0.85</sub>LaCe<sub>0.15</sub>CuO<sub>4-n</sub> by changing annealing condition** / LEE Myoungcheon<sup>1</sup>, ROH Seulki<sup>1</sup>, LEE Seokbae<sup>1</sup>, SEO Yu-seong<sup>1</sup>, SONG Dongjoon<sup>2</sup>, EISAKI H.<sup>2</sup>, HWANG Jungseek<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University, <sup>2</sup>Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology)

P2-co,307

**Analysis of global and local hysteresis loops of GdBCO coated conductors with striations** / KIM Mu-yong<sup>1</sup>, PARK Heeyeon<sup>1</sup>, KIM Youngkyong<sup>1</sup>, CHOI Hyeran<sup>1</sup>, JEON Sungmin<sup>1</sup>, RI Hyeong-Cheol<sup>\*1</sup> (<sup>1</sup>Department of Physics, Kyungpook National University)

P2-co,308

**2G 고온초전도 선재와 금속 테이프 사이의 압력에 따른 접촉저항에 관한 연구** / 손명환<sup>1</sup>, 하홍수<sup>1</sup>, 김호웅<sup>1</sup> (<sup>1</sup>한국전기연구원, HVDC초전도케이블팀)

P2-co,309

**Angular dependence of the magnetization of GdBCO coated conductors** / CHOI Hye-Ran<sup>1</sup>, KIM Young-Kyoung<sup>1</sup>, KIM Mu-Yong<sup>1</sup>, PARK Hee-Yeon<sup>1</sup>, JEON Sung-Min<sup>1</sup>, RI Hyeong-Cheol<sup>\*1</sup> (<sup>1</sup>Department of Physics, Kyungpook National University)

**P2-co.4** Condensed matter physics: Surface/Interface/Nanomaterials  
포스터 발표

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

P2-co,401

**Ultrafast terahertz study of topological insulator Bi<sub>2</sub>Te<sub>3</sub> single crystal** / LEE Bumjoo<sup>\*1,2</sup> (<sup>1</sup>Center for Correlated Electron System, Institute for Basic Science, <sup>2</sup>Department of Physics and Astronomy, Seoul National University)

P2-co,402

**First-principles study for WS<sub>2</sub>/BP stacked structures under applied electric fields** / CHA Janghwan<sup>1</sup>, MIN Kyung-Ah<sup>1</sup>, HONG Suklyun<sup>\*1</sup> (<sup>1</sup>Department of physics and Graphene Research Institute, Sejong University)

P2-co,403

**Structural Degradation of (C<sub>6</sub>H<sub>5</sub>(CH<sub>2</sub>)<sub>2</sub>NH<sub>2</sub>)<sub>2</sub>(Mn,Cu)Cl<sub>4</sub> Thin Films in Ambient Environment** / PARK Garam<sup>\*1,2</sup>, OH In-Hwan<sup>2</sup>, PARK J. M. Sungil<sup>2</sup>, JUNG Jinyong<sup>3,4</sup>, YOU Chun-Yeol<sup>3,4</sup>, KIM June-Seo<sup>4,5</sup>, KIM Yonghwan<sup>6</sup>, JUNG Jong Hoon<sup>6</sup>, HUR N.<sup>6</sup>, KIM Yonghak<sup>7</sup>, KIM J.-Y.<sup>7</sup>, KIM Chang-Seop<sup>1</sup>, KIM Ki-Yeon<sup>2</sup> (<sup>1</sup>Department of Chemistry, Korea University, <sup>2</sup>Neutron Science Center, Korea Atomic Energy Research Institute, <sup>3</sup>Department of Emerging Materials Science, DGIST, <sup>4</sup>Global Center for Bio-Convergence Spin System, DGIST, <sup>5</sup>DGIST Research Center for Emerging Materials, DGIST, <sup>6</sup>Department of Physics, Inha University, <sup>7</sup>Pohang Accelerator Laboratory, POSTECH)

P2-co,404

**First-principles study of phenylthiol molecules on Ge(001) surface** / SUNG Dongchul<sup>1</sup>, KIM DoHwan<sup>2</sup>, HONG Suklyun<sup>\*1</sup> (<sup>1</sup>Sejong University, Graphene Research Institute and Department of Physics, <sup>2</sup>Chobuk National University, Division of Science Education and Institute of Fusion Science)

P2-co,405

**Electrical and thermal properties of metal-coated carbon fiber for lighter electrical metal wires** / KANG Seung su<sup>1</sup>, JI Hyunjin<sup>1</sup>, Hamza Zad Gul<sup>1</sup>, SAKONG Won Kil<sup>1</sup>, AHN Byung Wook<sup>1</sup>, KIM Ji Yeon<sup>2</sup>, KIM Won Seok<sup>2</sup>, LEE Jhony<sup>3</sup>, HAN Songhee<sup>3</sup>, PARK Minyoung<sup>3</sup>, CHOI Young Chul<sup>\*4</sup>, LIM Seong Chu<sup>1</sup> (<sup>1</sup>Department of Energy Science, Sungkyunkwan University, <sup>2</sup>Department of electronic material, Korea Institute of Carbon Convergence Technology, <sup>3</sup>Department of advanced Materials, Bullstone Material, <sup>4</sup>Nano-Electron Source Research Section, Electronics and Telecommunications Research Institute)

P2-co.406

**Optically induced transient structural changes in GaAs and InAs /** NA Sangmi<sup>1</sup>, CHOI Inhyeok<sup>1</sup>, ROH Changjae<sup>1</sup>, LEE Jongseok<sup>\*1</sup> (<sup>1</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology (GIST))

P2-co.407

**패턴 된 유기박막을 활용한 그래핀의 직접 합성 및 물성 평가 /** 이동운<sup>1</sup>, 남정태<sup>1</sup>, 김근수<sup>\*1</sup> (<sup>1</sup>세종대학교, 물리학과 & 그래핀 연구소)

P2-co.408

**Dry transfer technique for TMPX<sub>3</sub> based-heterostructure and its application /** 이성민<sup>1,2</sup>, IDZUCHI Hiroshi<sup>3</sup>, 신영재<sup>3</sup>, 김필립<sup>3</sup>, 박제근<sup>\*1,2</sup> (<sup>1</sup>Center for Correlated Electron Systems, Institute for Basic Science, <sup>2</sup>Department of Physics and Astronomy, Seoul National University, <sup>3</sup>Department of Physics, Harvard University)

P2-co.409

**Charge transfer effect on blue luminescence at the interface of functionalized silicon nanocrystals /** JUNG Namsik<sup>1</sup>, JOO Beom Soo<sup>1</sup>, GU Minseon<sup>1</sup>, PARK Youngju<sup>1</sup>, HAN Moonsup<sup>\*1</sup> (<sup>1</sup>Department of Physics, University of Seoul)

P2-co.410

**Control of Cu-phthalocyanine molecular orientation on MgO(001) for Spintronic Performance in hybrid Magnetic Tunnel Junctions /** BAE YuJeong<sup>1</sup>, PHAM ThiKimHang<sup>1</sup>, PRATT Andrew<sup>2</sup>, SUN Xia<sup>4</sup>, KIM Tae Hee<sup>\*1,2</sup> (<sup>1</sup>Dept. of Physics, Ewha Womans University, <sup>2</sup>Center for Quantum Nanoscience, Institute for Basic Science, <sup>3</sup>Department of Physics, University of York, <sup>4</sup>School of Physics Sciences, University of Science and Technology of China)

P2-co.411

**X-ray Absorption Spectroscopy Study of Zinc Titanates Obtained by Annealing the ZnS/TiN and ZnO/TiN Thin Films. /** LEE Minji<sup>\*1</sup>, Ahmed Yousef Mohamed<sup>1</sup>, KIM Doyeong<sup>1</sup>, KIM Dae Hyun<sup>2</sup>, PARK Tae Joo<sup>2,3</sup>, CHO Deok-Yong<sup>1</sup> (<sup>1</sup>Department of Physics, Chonbuk National University, <sup>2</sup>Department of Advanced Materials Engineering, Hanyang University, <sup>3</sup>Department of Materials Science & and Chemical Engineering, Hanyang University)

P2-co.412

**Modifications of magnetic and thermal properties in polycrystalline oxide thin films** Modifications of magnetic and thermal properties in polycrystalline oxide thin films / WOO Sungmin<sup>1,2</sup>, LEE Sang A<sup>1</sup>, MUN Hyeona<sup>3</sup>, CHOI Young Gwan<sup>4</sup>, ZHUNG Chan June<sup>4</sup>, SHIN Soohyeon<sup>1</sup>, LACOTTE Morgane<sup>5</sup>, DAVID Adrian<sup>5</sup>, PRELLIER Wilfrid<sup>5</sup>, PARK Tuson<sup>1</sup>, KANG Won Nam<sup>1</sup>, LEE Jong Seok<sup>4</sup>, KIM Sung Wng<sup>3</sup>,

CHOI Woo Seok<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University, <sup>2</sup>Center for Integrated Nanostructure Physics, Institute for Basic Science, <sup>3</sup>Department of Energy Sciences, Sungkyunkwan University, <sup>4</sup>Department of Physics and Photons Science, Gwangju Institute of Science and Technology, <sup>5</sup>Laboratoire CRISTMAT, CNRS, Normandie Université)

P2-co.413

**Characterization of Piezoelectric Enhancement in 1-Dimensional Monoclinic KNbO<sub>3</sub> by Piezoresponse Force Microscopy /** OH Seol Hee<sup>1</sup>, YUN Byung Kil<sup>2</sup>, JUNG Jong Hoon<sup>2</sup>, JO William<sup>\*1</sup> (<sup>1</sup>Department of Physics and New and Renewable Energy Research Center (NREC), Ewha Womans University, <sup>2</sup>Department of Physics, Inha University)

P2-co.414

**Electrical-transport properties of SrTiO<sub>3</sub>/LaAlO<sub>3</sub>/SrTiO<sub>3</sub>/CaTiO<sub>3</sub>/SrTiO<sub>3</sub> perovskite heterostructure /** CHOI Minwoo<sup>1</sup>, KIM Jinhee<sup>2</sup>, SONG Jonghyun<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chungnam National University, <sup>2</sup>미래측정기술부, Korea Research Institute of Standards and Science)

P2-co.415

**The role of oxides of Pt-groups in CO oxidation reaction /** YU Youngseok<sup>1</sup>, LIM Hojoon<sup>1</sup>, KIM Geonhwa<sup>1</sup>, KOH Yoobin E.<sup>1</sup>, JUNG Moonjung<sup>1</sup>, UEDA Kohei<sup>2</sup>, HIWASA Satoru<sup>2</sup>, MASE Kazuhiko<sup>3</sup>, KONDOH Hiroshi<sup>2</sup>, MUN Bongjin Simon<sup>\*1</sup> (<sup>1</sup>Dep. of Physics and Photon Science, GIST, <sup>2</sup>Dep. of Chemistry, Keio Univ., <sup>3</sup>Institute of Materials Structure Science, KEK)

P2-co.416

**Photoactivity enhancement by the natural convection control in hydrothermal synthesis of iron oxide nanorods. /** KONG Heejung<sup>1</sup>, JUNG Jinjoo<sup>1</sup>, WON Hayeon<sup>1</sup>, KIM Dohyung<sup>1</sup>, YEO Junyeob<sup>\*1</sup> (<sup>1</sup>Department of Physics, Kyungpook National University)

P2-co.417

**UV-Vis absorption of Galvinoxyl-doped P<sub>3</sub>HT films /** LEE Jungkeun<sup>\*2</sup>, CHO Jungmin<sup>1</sup> (<sup>1</sup>Research Institute, TOPnC Co., Ltd., <sup>2</sup>Department of Physics, Chonbuk National University)

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

## P2-op.001

**Characterization of multi-cycle laser pulses in the time-domain using tunneling ionization** / CHO Wosik<sup>1,2</sup>, PARK Seung Beam<sup>1</sup>, KIM Kyungseung<sup>1</sup>, NAM Chang Hee<sup>1,2</sup>, KIM Kyung Taec<sup>1,2</sup> (<sup>1</sup>Center for Relativistic Laser Science, Institute for Basic Science, <sup>2</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology)

## P2-op.002

**Waveguiding of Dimethyl Sulfoxide(DMSO), Dimethyl Sulfoxide-d6(DMSO-d6) Filled Coreless and Ring-core Hollow Optical Fibers and Applicaitons** / 천승욱<sup>1</sup>, 오경환<sup>1</sup> (<sup>1</sup>연세대학교, 응용물리학과)

## P2-op.003

**Measurement of refractive index of gold nanoparticles by spectral-phase change analysis of ultrafast pulses** / KIM Minwoo<sup>1</sup>, KYHM Kwangseuk<sup>1,2</sup> (<sup>1</sup>부산대학교, 인지메카트로닉스공학과, <sup>2</sup>부산대학교, 물리교육과)

## P2-op.004

**Control of optical-field-induced charge separation by band engineering** / KIM Youngjae<sup>1</sup>, LEE JaeDong<sup>1</sup> (<sup>1</sup>Emerging materials science, DGIST)

## P2-op.005

**Dynamics of Refractive Index in D03 Doped PMMA Thin Film by Holographic Grating Measurement** / WU Yang<sup>1</sup>, KIM Sun Il<sup>1</sup>, SHIM Hyun Kwan<sup>2</sup> (<sup>1</sup>Department of Physics, Pukyong National University, <sup>2</sup>Department of Chemistry, Pukyong National University)

## P2-op.006

**Super-continuum generation by induced phase modulation with two laser pulses in a gas-filled hollow-core fiber** / LEE Chanhyeong<sup>2</sup>, YUN Hyeok<sup>1</sup>, HWANG Sung In<sup>1</sup>, PARK Seung Beom<sup>1</sup>, KIM Kyungseung<sup>1</sup>, NAM Chang Hee<sup>1,2</sup>, KIM Kyung Teac<sup>1,2</sup> (<sup>1</sup>Center for Relativistic Laser Science, Institute for Basic Science (IBS), <sup>2</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technolgoy (GIST))

## P2-op.007

**빔 균질기의 간섭 효과과 레이저 빔 이미지에 주는 영향 분석** / HWANG Seungjin<sup>1</sup>, KIM Taeshin<sup>1</sup>, YU Tae Jun<sup>1,2</sup> (<sup>1</sup>Department of Advanced Green

Energy and Environment, Handong Global University, <sup>2</sup>Global Green Research & Development Center, Handong Global University)

## P2-op.008

**레이저 충격 피닝을 위한 사각 빔 균질기의 작업거리 특성 실험** / 김태신<sup>1</sup>, 황승진<sup>1</sup>, 홍경희<sup>1,2</sup>, 유태준<sup>1,2</sup> (<sup>1</sup>한동대학교, 첨단그린에너지환경학과, <sup>2</sup>글로벌녹색기술연구원, 한동글로벌레이저기술연구소)

## P2-op.009

**특수광섬유를 적용한 반사형 디지털 홀로그래피 구현** / 마혜준<sup>1</sup>, 이승석<sup>1</sup>, 김주하<sup>1</sup>, 최은서<sup>1</sup> (<sup>1</sup>조선대학교, 물리학과)

## P2-op.010

**Sub-nanoliter volume measurement using Digital Holographic Microscope** / YU Younghun<sup>1</sup>, KIM Doocheol<sup>1</sup> (<sup>1</sup>Department of Physics, Jeju national University)

## P2-op.011

**Iridiscence of elytra of jewel beetles Chrysochroa fulminans** / KIM Kyoungdae<sup>1</sup>, KIM Seunghyun<sup>1</sup>, KIM Soohyo<sup>1</sup>, Song Hyeontae<sup>1</sup> (<sup>1</sup>Department of Physics and Earth Science, Korea Science Academy of KAIST)

## P2-op.012

**고체상반응법을 이용한 Gd2ZnTiO6:Eu3+ 적색 형광체 제작 및 특성 분석** / 차영진<sup>1</sup>, 이승무<sup>1</sup>, 김효성<sup>1</sup>, 이수현<sup>1</sup>, 유재수<sup>1</sup> (<sup>1</sup>경희대학교, 전자공학과)

## P2-op.013

**희토류가 도핑된 borate 유리 세라믹 내부에 은나노입자와 산화물결정 형성에 따른 형광분석 / 배창혁<sup>1</sup>, 임기수<sup>1</sup> (<sup>1</sup>충북대학교, 물리학과)**

## P2-op.014

**Theoretical study of an optomechanical resonator in the reversed dissipation regime for ultralow temperature measurement** / 이재훈<sup>1</sup>, 문종철<sup>1</sup>, 박상태<sup>3</sup>, 이한석<sup>2</sup>, 석효준<sup>2,3</sup> (<sup>1</sup>한국표준과학연구원, 기반표준부, <sup>2</sup>한국과학기술원, 나노과학기술대학원, <sup>3</sup>국립공주대학교, 물리교육과)

## P2-op.015

**단일 LED칩 이용한 해상용 LED 등명기의 광학 설계** / 서영조<sup>1,2</sup>, 주정식<sup>2</sup>, 양현경<sup>3</sup> (<sup>1</sup>부경대학교, LED융합공학전공, <sup>2</sup>덕성해양개발, 부설연구소)

## P2-op.016

**해상용 LED 등명기의 광학 설계 및 시뮬레이션** / 이성제<sup>1</sup>, 주정식<sup>2</sup>, 박진영<sup>1</sup>, 양현경<sup>3</sup> (<sup>1</sup>부경대학교, LED융합공학전공, <sup>2</sup>주)덕성해양개발, 부설연구소)

P2-op.017

**Optimization of dose distribution of the CNT-based miniature X-ray tube for interstitial brachytherapy** / 이주혁<sup>1</sup>, 김현남<sup>1</sup>, 조성오<sup>1</sup>  
(<sup>1</sup>한국과학기술원, 원자력 및 양자공학과)

P2-op.018

**Fabrication and Evaluation of Surface Applicator of Electronic brachytherapy device based on Carbon Nanotubes to Treat Skin Diseases** / CHO Sungoh<sup>\*1</sup>, KIM Hyunnam<sup>1</sup>, LEE Juhyuk<sup>1</sup>, PARK Hanbeom<sup>1</sup>  
(<sup>1</sup>한국과학기술원, 원자력 및 양자공학과)

P2-op.019

**Enhanced Absorption in a Photonic Crystal Resonator Coupled with a Microfiber** / 최지훈<sup>1</sup>, 노희소<sup>\*1</sup> (<sup>1</sup>Department of Nano Electronic Physics, Kookmin University)

P2-op.020

**원통형 레이저매질의 열렌즈 정밀 측정 및 비점수차 보상** / 정지훈<sup>1</sup>, 조세례요한<sup>1</sup>, 유태준<sup>\*1,2</sup> (<sup>1</sup>한동대학교, 첨단그린에너지환경학과, <sup>2</sup>한동대학교, Global Institute of Laser Technology)

P2-op.021

**Fabrication and Characterization on the Surface Ligand Controlled Organometallic Halide Perovskite Quantum Dots and its Application for Light Emitting Diodes** / 최진우<sup>1</sup>, 우희철<sup>1</sup>, 진상현<sup>1,2</sup>, 이창열<sup>\*1</sup> (<sup>1</sup>광주과학기술원, 고등광기술연구소, <sup>2</sup>전북대학교, 물리학과)

P2-op.022

**Two-Photon CNOT Gate in Circuit QED System with Triple-Leg Stripline Resonator** / KIM Dongmin<sup>1</sup>, MOON Kyungsun<sup>\*1</sup> (<sup>1</sup>Department of Physics, Yonsei University)

P2-op.023

**Quantum dot transport in a few layers of ReS<sub>2</sub>** / PARK Jinwan<sup>1</sup>, SEO Jungpil<sup>1,2</sup>, JUNG Minkyung<sup>\*2</sup> (<sup>1</sup>Department of Emerging Material Science, Daegu Gyeongbuk Institute of Science and Technology, <sup>2</sup>Daegu Gyeongbuk Institute of Science and Technology Research Institute, Daegu Gyeongbuk Institute of Science and Technology)

P2-op.024

**LED 여기 Nd:KGW 레이저 설계** / 정치현<sup>1</sup>, 이범준<sup>2</sup>, 이상후<sup>2</sup>, 임정섭<sup>2</sup>, 정우열<sup>2</sup>, 김국현<sup>2</sup>, 이종훈<sup>\*1</sup> (<sup>1</sup>영남대학교, 물리학과, <sup>2</sup>대구과학고등학교, 물리팀)

**P2-pa.1** Particle physics: Accelerator-based particle physics experiments  
포스터 발표

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

P2-pa.101

**1.7 MV 탄뎀 가속기 빔라인의 외기 PIXE용 외기빔창** / 하준목<sup>1</sup>, 이승호<sup>1</sup>, 김계령<sup>1</sup>, 석재권<sup>1</sup>, 김민영<sup>1</sup>, 조용섭<sup>1</sup> (<sup>1</sup>한국원자력연구원, 양성자가속기연구센터)

P2-pa.102

**RIVET for vector boson transverse momentum spectra measurement at CMS experiment** / 박상일<sup>1</sup>, 이상은<sup>\*1</sup>, 손동철<sup>1</sup>, 김귀년<sup>1</sup>, 이세욱<sup>1</sup> (<sup>1</sup>경북대학교, 물리학과)

P2-pa.103

**Tracking algorithm for muon-beam tests of RPCs at GIF++/CERN** / RYOO Kwangrok<sup>\*1</sup>, CHO Sungwoong<sup>1</sup>, CHOI Suyong<sup>1</sup>, GOH Junghwan<sup>2</sup>, JEONG Sumin<sup>2</sup>, JO Youngmin<sup>1</sup>, KANG Minho<sup>1</sup>, KIM Taejung<sup>2</sup>, LEE Kyongsei<sup>1</sup>, LIM Jaehoon<sup>1</sup>, PARK Sungkeun<sup>1</sup> (<sup>1</sup>Department of Physics and KODEL, 고려대학교, <sup>2</sup>Department of Physics, 한양대학교)

P2-pa.104

**Computational-Science-based Research on Dark Matter** / CHO Kihyeon<sup>\*1,2,3</sup>, YEO Insung<sup>1</sup> (<sup>1</sup>National Institute of Supercomputing and Networking, KISTI, <sup>2</sup>S&T Information Science, University of Science and Technology, <sup>3</sup>Department of Physics, KAIST)

P2-pa.105

**Feasibility study on B meson decays to 6 leptons** / CHOI Jiyeong<sup>1</sup>, JANG Yeongmin<sup>1</sup>, JOO Kyungkwang<sup>\*1</sup> (<sup>1</sup>Department of Physics, Chonnam National University)

P2-pa.106

**Study of Charge Flip for Same-Sign Dilepton Channel Heavy Majorana Neutrino Analysis using the CMS detector at 13 TeV** / JEON Si Hyun<sup>\*1</sup>, ALMOND John<sup>1</sup>, KIM Jae Sung<sup>1</sup>, OH Sung Bin<sup>1</sup>, LEE Han Eol<sup>1</sup>, YANG Un Ki<sup>1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

P2-pa.107

**Study of the Calorimeter Trigger Simulation at the Belle II Experiment** / 이인수<sup>1</sup>, 김성현<sup>1</sup>, 김철훈<sup>1</sup>, 조한얼<sup>1</sup>, UNNO Yuji<sup>1</sup>, 천병구<sup>1</sup> (<sup>1</sup>한양대학교, 물리학과)

P2-pa.108

**Firmware Study of the Electromagnetic Calorimeter Trigger Boards at the Belle II Experiment** / KIM SungHyun<sup>1</sup>, LEE Insoo<sup>1</sup>, UNNO Yuuji<sup>1</sup>, KIM CheolHun<sup>1</sup>, CHO HanEol<sup>1</sup>, CHEON ByungGu<sup>\*1</sup> (<sup>1</sup>Department of Physics, Hanyang University)

P2-pa.109

**Slow Control System for the Electromagnetic Calorimeter Trigger System at the Belle II Experiment** / KIM Cheolhun<sup>1</sup>, KIM Sung Hyun<sup>1</sup>, LEE In Soo<sup>1</sup>, CHO Han Eol<sup>1</sup>, UNNO Y.<sup>1</sup>, CHEON Byung Gu<sup>\*1</sup> (<sup>1</sup>Department of Physics, Hanyang University)

P2-pa.110

**Jet discrimination with machine learning** / LEE Yunjae<sup>1</sup>, JANG Woojin<sup>1</sup>, PARK Inkyu<sup>\*1</sup>, LEE Jason Sang Hun<sup>1</sup>, WATSON Ian James<sup>1</sup>, YANG Seungjin<sup>1</sup> (<sup>1</sup>Department of Physics, University of Seoul)

P2-pa.111

**Simulation of Dual-Readout Calorimeter for Circular Electron Positron Collider Experiment** / JO Hyunsuk<sup>\*1</sup>, LEE Sehwook<sup>1</sup> (<sup>1</sup>Physics, Kyungpook National University)

P2-pa.112

**Data Quality Monitoring Study of Calorimeter Trigger System at the Belle II Experiment** / 최원지<sup>1</sup>, 김영준<sup>1</sup>, 천병구<sup>\*2</sup>, UNNO Yuuji<sup>2</sup>, 김성현<sup>2</sup>, 이인수<sup>2</sup>, 안정근<sup>1</sup> (<sup>1</sup>고려대학교, 물리학과, <sup>2</sup>한양대학교, 물리학과)

P2-pa.113

**Study for calorimeter detector design for Circular Electron Positron Collider using GEANT4** / KWON Taeun<sup>1</sup>, YOO Hwidong<sup>\*1</sup> (<sup>1</sup>Department of Physics & Astronomy, Seoul National University)

P2-pa.114

**Study of Electroweak Production of  $Z\gamma+2$ jets in the Standard Model** / 김지웅<sup>1</sup>, 김동희<sup>1</sup>, 양유철<sup>1</sup> (<sup>1</sup>경북대학교, 물리학과)

P2-pa.115

**Search for  $B^0$  decays to dark-photon pair at Belle** / PARK Seokhee<sup>\*1</sup>, KWON youngjoon<sup>1</sup> (<sup>1</sup>Department of Physics, Yonsei University)

P2-pa.116

**Slow Control Monitoring Framework for the Belle II Data Acquisition System** / PARK Seokhee<sup>\*1</sup>, KWON Youngjoon<sup>1</sup> (<sup>1</sup>Department of Physics, Yonsei University)

P2-pa.117

**Higgs to di-muon search** / LEE Sang Man<sup>1</sup>, LEE Jason Sang Hun<sup>1</sup>, PARK Inkyu<sup>\*1</sup>, WATSON Ian James<sup>1</sup> (<sup>1</sup>Department of Physics, University of Seoul)

P2-pa.118

**Top quark mass measurement using  $J/\psi$  meson** / PARK Inkyu<sup>\*1</sup>, LEE Jason Sang hun<sup>1</sup>, KIM Jihyun<sup>1</sup>, JEONG Dongjun<sup>1</sup>, KANG Dayoung<sup>1</sup>, KIM Seulgi<sup>1</sup> (<sup>1</sup>Department of Physics, University of Seoul)

P2-pa.119

**Measurement of top quark mass using D meson in b-jet** / PARK Inkyu<sup>\*1</sup>, LEE Jason Sang Hun<sup>1</sup>, KIM Jihyun<sup>1</sup>, KIM Seulgi<sup>1</sup>, KANG Dayoung<sup>1</sup>, JEONG Dongjun<sup>1</sup> (<sup>1</sup>Department of Physics, University of Seoul)

P2-pa.120

**JetMET trigger validation and DQM in CMS** / KIM Bobae<sup>\*1</sup>, LEE Sehwook<sup>1</sup>, HA Seungkyu<sup>2</sup> (<sup>1</sup>Department of Physics, Kyungpook National University, <sup>2</sup>Department of Physics, Korea University)

P2-pa.121

**GEM Detector response simulation with Geant4** / PARK Inkyu<sup>\*1</sup>, LEE Jason Sang Hun<sup>1</sup>, KANG Yechan<sup>1</sup> (<sup>1</sup>Department of Physics, University of Seoul)

P2-pa.122

**KNO Candidate Sites and Geological Survey Results** / 김상용<sup>1</sup>, 김수봉<sup>\*1</sup>, 서선희<sup>1</sup> (<sup>1</sup>서울대학교, 물리학과)

P2-pa.123

**GEM Detector Performance Test** / 송동현<sup>1</sup>, 박인규<sup>\*1</sup>, 이상훈<sup>1</sup>, 정영균<sup>1</sup>, 장세덕<sup>1</sup> (<sup>1</sup>서울시립대학교, 물리학과)

P2-pa.124

**Study of PMT configuration in the JSNS2 experiment.** / JEON HyoungKu<sup>\*1</sup> (<sup>1</sup>Department of Physics, SungKyunKwan University)

P2-pa.125

**Property Changes to Polymers after Electron Irradiation** / 임형산<sup>\*1</sup>, 조성오<sup>1</sup> (<sup>1</sup>Nuclear and Quantum Engineering, KAIST)

P2-pa.126

**Calibration Study of the Calorimeter Trigger System at the Belle II Experiment** / 김영준<sup>1</sup>, 안정근<sup>1</sup>, 최원지<sup>1</sup>, 이인수<sup>2</sup>, 김성현<sup>2</sup>, Y.Unno<sup>2</sup>, 천병구<sup>2</sup> (<sup>1</sup>Department of Physics, Korea University, <sup>2</sup>Department of Physics, Hanyang University)



P2-pa.127

**Two dimensional dose distribution analysis of electron beam irradiated uPVC film** / LEE Sangyoon<sup>1</sup>, YIM Hyungsan<sup>1</sup>, CHO Sungoh<sup>\*1</sup>  
(<sup>1</sup>Department of Nuclear and Quantum Engineering, Korea Advanced Institute of Science and Technology)

P2-pa.128

**Study of Effect of PMT Tilt on Charge Collection in the JSNS2 Detector** / JEON Sanghoon<sup>1</sup>, YU Intae<sup>\*1</sup> (<sup>1</sup>Department of Physics, Sungkyunkwan University)

P2-pa.129

**GEM in muon reconstruction** / 윤예빈<sup>1</sup>, 박인규<sup>\*1</sup>, LEE Jason<sup>1</sup>, 강예찬<sup>1</sup>, 고병학<sup>1</sup>, 송동현<sup>1</sup>, 전다정<sup>1</sup> (<sup>1</sup>서울시립대학교, 물리학과)

P2-pa.2

Particle physics: Field&string theory and other particle physics theory  
포스터 발표

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

P2-pa.201

**New Dirac theory described by FW spin operator and its nonrelativistic approximated Hamiltonian** / CHOI taeseung<sup>\*1</sup>, LEE Young Won<sup>3</sup>, HAN Yeong Deok<sup>2</sup> (<sup>1</sup>Division of Applied Food Syetms, Seoul women's University, <sup>2</sup>Basic Science Institute, Seoul Women's University, <sup>3</sup>Department of Computer Science and Engineering, Woosuk University)

P2-pa.202

**Smarr relation for higher dimensional RN-Sch BH in quasilocal frame** / KIM Nakwoo<sup>1</sup>, LEE Yein<sup>1</sup>, PARK Miok<sup>\*2</sup>, RICHARDS Matthew<sup>3</sup>, STOTYN Sean<sup>3</sup> (<sup>1</sup>Department of Physics, Kyunghee University, <sup>2</sup>School of Physics, Korea Institute for Advanced Study, <sup>3</sup>Department of Physics and Astronomy, University of Calgary)

P2  
포  
스  
터  
세  
션

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

## P2-pa.301

**Development of Genat4 profiling tool kit for low energy physics**  
/ YEO Insung<sup>\*1</sup>, CHO Kihyeon<sup>1</sup> (<sup>1</sup>Center for computational science and engineering division of supercomputing, KISTI)

## P2-pa.302

**Development of Measuring Devices for the Attenuation Length of LAB-based Liquid Scintillator** / 박영서<sup>1</sup>, 주경광<sup>\*1</sup> (<sup>1</sup>전남대학교, 물리학과)

## P2-pa.303

**Charge correction using neutron capture on hydrogen** / 신창동<sup>\*1</sup>, 김재률<sup>1</sup>, 문동호<sup>1</sup>, 박경환<sup>1</sup>, 박영서<sup>1</sup>, 임인택<sup>1</sup>, 주경광<sup>1</sup>, 김우영<sup>2</sup>, SERGEYEVICH Sergey<sup>2</sup>, 박명렬<sup>3</sup>, 최준호<sup>3</sup>, 장한일<sup>4</sup>, 권은향<sup>4</sup>, 김상용<sup>4</sup>, 김수봉<sup>4</sup>, 서선희<sup>4</sup>, 서현관<sup>4</sup>, 양정열<sup>4</sup>, 이동하<sup>4</sup>, 이용창<sup>4</sup>, 이현기<sup>4</sup>, 김종건<sup>4</sup>, 김종현<sup>4</sup>, 유인태<sup>4</sup>, 전상훈<sup>4</sup>, 정다운<sup>4</sup>, ROTT Carsten<sup>4</sup>, 장지승<sup>7</sup>, 유종희<sup>8</sup> (<sup>1</sup>전남대학교, 물리학과, <sup>2</sup>경부대학교, 물리학과, <sup>3</sup>동신대학교, 방사선학과, <sup>4</sup>서영대학교, 물리학과, <sup>5</sup>서울대학교, 물리천문학부, <sup>6</sup>성균관대학교, 물리학과, <sup>7</sup>GIST, 물리학과, <sup>8</sup>KAIST, 물리학과)

## P2-pa.304

**Development of parallel ionization chamber** / 제갈진<sup>1</sup>, 김홍주<sup>\*1</sup>, 이혜영<sup>1</sup>, 이주영<sup>1</sup> (<sup>1</sup>경북대학교, 물리학과)

## P2-pa.305

**Delay energy and vertex correlation requirements for the neutron capture on hydrogen analysis at RENO** / 권은향<sup>\*4</sup>, 김우영<sup>1</sup>, SERGEYEVICH Sergey<sup>1</sup>, 박명렬<sup>2</sup>, 최준호<sup>2</sup>, 장한일<sup>3</sup>, 김상용<sup>4</sup>, 김수봉<sup>4</sup>, 서선희<sup>4</sup>, 서현관<sup>4</sup>, 양정열<sup>4</sup>, 이동하<sup>4</sup>, 이용창<sup>4</sup>, 이현기<sup>4</sup>, 김종건<sup>4</sup>, 김종현<sup>4</sup>, 유인태<sup>4</sup>, 전상훈<sup>4</sup>, 정다운<sup>4</sup>, ROTT Carsten<sup>4</sup>, 김재률<sup>6</sup>, 문동호<sup>6</sup>, 박경환<sup>6</sup>, 박영서<sup>6</sup>, 신창동<sup>6</sup>, 임인택<sup>6</sup>, 주경광<sup>6</sup>, 장지승<sup>7</sup>, 유종희<sup>8</sup> (<sup>1</sup>경북대학교, 물리학과, <sup>2</sup>동신대학교, 물리학과, <sup>3</sup>서영대학교, 물리학과, <sup>4</sup>서울대학교, 물리학과, <sup>5</sup>성균관대학교, 물리학과, <sup>6</sup>전남대학교, 물리학과, <sup>7</sup>GIST, 물리학과, <sup>8</sup>KAIST, 물리학과)

## P2-pa.306

**Sensitivity calculation for radioactive background measurement of MoO<sub>3</sub> powders with an array of HPGe detectors at Y2L** / 박수연<sup>1</sup>, 한인식<sup>\*1</sup>, 김영덕<sup>2</sup>, 김고운<sup>1</sup>, 이무현<sup>2</sup>, 이은경<sup>2</sup>, 강운구<sup>2</sup>, LEONARD Douglas<sup>2</sup> (<sup>1</sup>이화여자대학교, 물리학과, <sup>2</sup>기초과학연구원, 지하실험연구단)

## P2-pa.307

**Charge correction for the IBD events and muons at RENO** / 김우영<sup>1</sup>,

SERGEYEVICH Serguey<sup>1</sup>, 박명렬<sup>2</sup>, 최준호<sup>2</sup>, 장한일<sup>3</sup>, 권은향<sup>4</sup>, 김상용<sup>4</sup>, 김수봉<sup>\*4</sup>, 서선희<sup>4</sup>, 서현관<sup>4</sup>, 양정열<sup>4</sup>, 이동하<sup>4</sup>, 이용창<sup>4</sup>, 이현기<sup>4</sup>, 김종건<sup>4</sup>, 김종현<sup>4</sup>, 유인태<sup>4</sup>, 전상훈<sup>4</sup>, 정다운<sup>4</sup>, ROTT Carsten<sup>4</sup>, 김재률<sup>6</sup>, 문동호<sup>6</sup>, 박경환<sup>6</sup>, 박영서<sup>6</sup>, 신창동<sup>6</sup>, 임인택<sup>6</sup>, 주경광<sup>6</sup>, 장지승<sup>7</sup>, 유종희<sup>8</sup> (<sup>1</sup>경북대학교, 물리학과, <sup>2</sup>동신대학교, 물리학과, <sup>3</sup>서영대학교, 물리학과, <sup>4</sup>서울대학교, 물리천문학부, <sup>5</sup>성균관대학교, 물리학과, <sup>6</sup>전남대학교, 물리학과, <sup>7</sup>GIST, 물리학과, <sup>8</sup>KAIST, 물리학과)

## P2-pa.308

**Concept of multiple-cell cavity for axion dark matter search** / JEONG Junu<sup>1,2</sup>, YOUN Sungwoo<sup>\*2</sup>, AHN Saebyeok<sup>1,2</sup>, KANG Chanshin<sup>1,2</sup>, SEMERTZIDIS Yannis K.<sup>1,2</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), <sup>2</sup>Center for Axion and Precision Physics, Institute for Basic Science)

## P2-pa.309

**Estimation of Cosmic Muon Flux at KNO Candidate Sites** / 김수봉<sup>\*4</sup>, 김재률<sup>6</sup>, 임인택<sup>6</sup>, 김우영<sup>1</sup>, ROTT Carsten<sup>4</sup>, 주경광<sup>6</sup>, 박명렬<sup>2</sup>, 최준호<sup>2</sup>, 장한일<sup>3</sup>, 장지승<sup>7</sup>, 신창동<sup>6</sup>, 이동하<sup>4</sup>, 서현관<sup>4</sup>, 유인태<sup>4</sup>, 양정열<sup>4</sup>, SERGEYEVICH Sergey<sup>1</sup>, 권은향<sup>4</sup>, 이용창<sup>4</sup>, 신창동<sup>4</sup>, 문동호<sup>6</sup>, 이현기<sup>4</sup>, 서선희<sup>4</sup>, 유종희<sup>8</sup>, 전상훈<sup>4</sup>, 김종현<sup>4</sup>, 박경환<sup>6</sup>, 김종건<sup>4</sup>, 박영서<sup>6</sup>, 정다운<sup>4</sup> (<sup>1</sup>경북대학교, 물리학과, <sup>2</sup>동신대학교, 방사선학과, <sup>3</sup>서영대학교, 소방안전과, <sup>4</sup>서울대학교, 물리, 천문학부, <sup>5</sup>성균관대학교, 물리학과, <sup>6</sup>전남대학교, 물리학과, <sup>7</sup>전남대학교, 물리교육과, <sup>8</sup>KAIST, 물리학과, <sup>9</sup>GIST, 물리학과)

## P2-pa.310

**Charge stability check using calibration sources at RENO** / 이용창<sup>\*4</sup>, 김우영<sup>1</sup>, SERGEYEVICH Serguey<sup>1</sup>, 박명렬<sup>2</sup>, 최준호<sup>2</sup>, 장한일<sup>3</sup>, 권은향<sup>4</sup>, 김상용<sup>4</sup>, 김수봉<sup>\*4</sup>, 서선희<sup>4</sup>, 서현관<sup>4</sup>, 양정열<sup>4</sup>, 이동하<sup>4</sup>, 이현기<sup>4</sup>, 김종건<sup>4</sup>, 김종현<sup>4</sup>, 유인태<sup>4</sup>, 전상훈<sup>4</sup>, 정다운<sup>4</sup>, ROTT Carsten<sup>4</sup>, 김재률<sup>6</sup>, 문동호<sup>6</sup>, 박경환<sup>6</sup>, 박영서<sup>6</sup>, 신창동<sup>6</sup>, 임인택<sup>6</sup>, 주경광<sup>6</sup>, 장지승<sup>7</sup>, 유종희<sup>8</sup> (<sup>1</sup>경북대학교, 물리학과, <sup>2</sup>동신대학교, 물리학과, <sup>3</sup>서영대학교, 물리학과, <sup>4</sup>서울대, 물리천문학부, <sup>5</sup>성균관대, 물리학과, <sup>6</sup>전남대, 물리학과, <sup>7</sup>GIST, 물리학과, <sup>8</sup>KAIST, 물리학과)

## P2-pa.311

**RENO upgrade and its sensitivity study** / 김수봉<sup>\*4</sup>, 김재률<sup>6</sup>, 임인택<sup>6</sup>, 김우영<sup>1</sup>, 주경광<sup>6</sup>, 박명렬<sup>2</sup>, 최준호<sup>2</sup>, 장한일<sup>3</sup>, 장지승<sup>7</sup>, 신창동<sup>6</sup>, 이동하<sup>4</sup>, 서현관<sup>4</sup>, 유인태<sup>4</sup>, 양정열<sup>4</sup>, ROTT Carsten<sup>4</sup>, 권은향<sup>4</sup>, 이용창<sup>4</sup>, 김상용<sup>4</sup>, 문동호<sup>6</sup>, 이현기<sup>4</sup>, 서선희<sup>4</sup>, 유종희<sup>8</sup>, 전상훈<sup>4</sup>, 김종현<sup>4</sup>, 김종건<sup>4</sup>, SERGEYEVICH Sergey<sup>1</sup>, 박영서<sup>6</sup>, 박경환<sup>6</sup>, 정다운<sup>4</sup> (<sup>1</sup>경북대학교, 물리학과, <sup>2</sup>동신대학교, 방사선학과, <sup>3</sup>서영대학교, 소방안전과, <sup>4</sup>서울대학교, 물리, 천문학부, <sup>5</sup>성균관대학교, 물리학과, <sup>6</sup>전남대학교, 물리학과, <sup>7</sup>전남대학교, 물리교육과, <sup>8</sup>GIST, 물리학과, <sup>9</sup>KAIST, 물리학과)

## P2-pa.312

**An experiment for measuring intensity of high energy gammas from TI-208 with ThO<sub>2</sub> powders** / LEE Eunkyung<sup>1</sup>, KIM Yeongduk<sup>\*1,3</sup>, HAHN Kevin Insik<sup>2</sup>, KANG Woongu<sup>1</sup>, KIM Gowoon<sup>4</sup>, LEE Moohyun<sup>1</sup>, LEONARD Douglas S.<sup>1</sup>, PARK Suyeon<sup>4</sup>, JEON Eunju<sup>1</sup> (<sup>1</sup>Center for Underground

Physics, Institute for Basic Science, <sup>2</sup>Science Education, Ewha Womans University, <sup>3</sup>Department of Physics and Astronomy, Sejong University, <sup>4</sup> Department of Physics, Ewha Womans University)

#### P2-pa.313

**Efforts on Purification of Liquid Scintillator** / 양정열<sup>1</sup>, 이용창<sup>2</sup>, 이현기<sup>1</sup>, 김수봉<sup>3</sup> (<sup>1</sup>서울대학교, 물리천문학부)

#### P2-pa.314

**Supernova Relic Neutrino Sensitivity at KNO** / YEUM Dongnyeok<sup>1</sup>, SEO Seon-Hee<sup>\*1</sup> (<sup>1</sup>Department of Physics and Astronomy, Seoul National University)

#### P2-pa.315

**The high Q superconducting cavity for the Axion search** / AHN Danho<sup>1,2</sup>, KWON Ohjoon<sup>2</sup>, CHUNG Woohyun<sup>2</sup>, LEE Jinhwan<sup>1,2</sup>, SEMERTZIDIS K. Yannis<sup>1,2</sup>, KIM Jinsu<sup>1</sup>, LEE Doyu<sup>2</sup>, JANG Wonjun<sup>3</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology, <sup>2</sup>Center for Axion and Precision Physics Research, Institute for Basic Science, <sup>3</sup>Center for Quantum Nano Science, Institute for Basic Science)

#### P2-pa.316

**RF chain analysis for axion search experiments using Simulink in Matlab** / KANG Chanshin<sup>1,2</sup>, YOUN Sungwoo<sup>2</sup>, JEONG Junu<sup>1,2</sup>, AHN Saeyeok<sup>1,2</sup>, SEMERTZIDIS Yannis K.<sup>1,2</sup> (<sup>1</sup>Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), <sup>2</sup>Center for Axion and Precision Physics Research, Institute for Basic Science)

#### P2-pa.317

**Study of temperature dependence properties of NaI(Tl) crystal and PMT** / 김광수<sup>1</sup>, 김홍주<sup>1</sup>, 김남영<sup>2</sup> (<sup>1</sup>경북대학교, 물리학과, <sup>2</sup>기초과학연구원, 지하실험연구단)

#### P2-pa.318

**Stabilization heater development for AMoRE detectors** / 권도형<sup>1,2</sup>, 김용환<sup>1,2,3</sup>, 오하영<sup>4</sup>, 오승윤<sup>7</sup>, 김인욱<sup>5</sup>, 김혜림<sup>6</sup>, 김소라<sup>2</sup>, 강찬석<sup>2</sup>, 조현석<sup>2</sup>, 이창<sup>2</sup>, 이혜진<sup>2</sup>, 이성훈<sup>2</sup>, 전진아<sup>2</sup> (<sup>1</sup>Basic Science, University of Science and Technology, <sup>2</sup>Center for Underground Physics, Institute for Basic Science, <sup>3</sup>Quantum Measurement Science, Korea Reserch Institute of Standard and Science, <sup>4</sup>Department of Physics, Chungbuk National University, <sup>5</sup>Department of Physics, Seoul National University, <sup>6</sup>Department of Physics, Kyungpook National University, <sup>7</sup>Department of Physics, Sejong University)

#### P2-pa.319

**AMoRE Muon Veto Counter and Event Selection** / SEO Kyungmin<sup>1</sup>, YOON Young Soo<sup>\*2</sup>, LEE Jaison<sup>2</sup>, LEE MooHyun<sup>2</sup>, OH Yoomin<sup>2</sup>, KIM Youngduk<sup>1,2</sup>, JEON Eunju<sup>2</sup>, KIM Hyunsoo<sup>1</sup> (<sup>1</sup>Department of Physics, Sejong

University, <sup>2</sup>Center for Underground Physics, Institute for Basic Science)

#### P2-pa.320

**A measurement of 180mTa decay with a HPGe detectors Array** / KIM Gowoon<sup>1</sup>, HAHN Insik<sup>\*1</sup>, KIM Yeongduk<sup>2</sup>, LEONARD Douglas<sup>2</sup>, KANG WoonGu<sup>2</sup>, LEE Moohyun<sup>2</sup>, PARK Suyeon<sup>1</sup>, LEE Eunkyung<sup>2</sup>, JEON Eunju<sup>2</sup> (<sup>1</sup>Nuclear Physics, Ewha Womans University, <sup>2</sup>Center for Underground Physics, Institute for Basic Science)

#### P2-pa.321

**Discrimination of neutrino and antineutrino in the near detector of DUNE** / JANG Changhwan<sup>\*1</sup>, YANG Guang<sup>2</sup> (<sup>1</sup>Department of Physics, Chung-Ang Univerity, <sup>2</sup>Department of Physics, Stony Brook University)

#### P2-pa.322

**Study of PMT saturation for JSNS2 experiment** / YANG J.Y.<sup>1</sup>, KIM S.Y.<sup>1</sup>, JANG J.S.<sup>2</sup>, KIM S.B.<sup>\*1</sup>, JEON S.H.<sup>3</sup>, JANG H.I.<sup>4</sup>, KANG S.K.<sup>5</sup>, PARK M.Y.<sup>6</sup>, KIM W.Y.<sup>7</sup>, YU I.T.<sup>3</sup>, KIM E.J.<sup>8</sup>, CHEOUN M.K.<sup>9</sup>, LIM I.T.<sup>10</sup>, CHOI J.H.<sup>6</sup>, KIM J.Y.<sup>10</sup>, SEO H.K.<sup>1</sup>, YU S.W.<sup>3</sup>, JEON H.G.<sup>3</sup>, LEE Y.C.<sup>1</sup>, LEE H.G.<sup>1</sup> (<sup>1</sup>Department of Physics & Astronomy, Seoul National University, <sup>2</sup>Department of Physics and Photon Science, GIST, <sup>3</sup>Department of Physics, Sungkyunkwan University, <sup>4</sup>Department of Physics, Seoyeong University, <sup>5</sup>Department of Physics, Seoul National University of Science and Technology, <sup>6</sup>Department of Physics, Dongshin University, <sup>7</sup>Department of Physics, Kyungpook National University, <sup>8</sup>Department of Physics, Chonbuk National University, <sup>9</sup>Department of Physics, Soongsil University, <sup>10</sup>Department of Physics, Chonnam University)

#### P2-pa.323

**Detectors of Deep Underground Neutrino Experiment (DUNE)** / SIYEON Kim<sup>\*1</sup>, JANG Changhwan<sup>1</sup> (<sup>1</sup>Department of Physics, Chung-Ang University)

#### P2-pa.324

**Muon simulation with AMoRE-Pilot detector** / BAE Hanwook<sup>\*1</sup>, LEE Sehwook<sup>1</sup>, On behalf of the AMoRE collaboration<sup>2</sup> (<sup>1</sup>Department of physics, Kyungpook University, <sup>2</sup>Center for Underground Physics, Institute for Basic Science)

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

## P2-pl,101

**3 MV 탄뎀 가속기 빔라인의 빔 광학 설계\*** / 조용섭<sup>1</sup>, 하준목<sup>1</sup>, 석재권<sup>1</sup>, 김계령<sup>1</sup> (한국원자력연구원, 양성자가속기연구센터)

## P2-pl,102

**The evolution of the temporal pulse in a 3D time-dependent free-electron laser.** / 남순권<sup>1</sup>, 김태훈<sup>1</sup>, 최준호<sup>1</sup>, 박윤성<sup>1</sup> (강원대학교, 물리학과)

## P2-pl,103

**홀 추력이 플라스마 내 Xe<sup>+</sup> 이온의 속도분포 진단을 위한 레이저유도형광 측정시스템 구축** / 도근태<sup>1</sup>, 김호락<sup>1</sup>, 윤성영<sup>2</sup>, 이동호<sup>1</sup>, 이승훈<sup>1,3</sup>, 송민우<sup>1</sup>, 최원호<sup>1,4</sup> (한국과학기술원, 물리학과, <sup>2</sup>국가핵융합연구소, 플라스마발생원연구팀, <sup>3</sup>재료연구소, 플라스마공정연구실, <sup>4</sup>한국과학기술원, 원자력 및 양자공학과)

## P2-pl,104

**초전도 Half-Wave Resonator의 고주파 결합기 기초 설계** / 김한성<sup>1</sup>, 권혁중<sup>1</sup>, 당정중<sup>1</sup>, 김경현<sup>1</sup>, 조용섭<sup>1</sup> (한국원자력연구원, 양성자가속기연구센터)

## P2-pl,105

**Performance of the Pal-xfel high precision magnet power supplies** / JEONG S. H.<sup>1</sup>, PARK K. H.<sup>1</sup>, SUH H. S.<sup>1</sup>, LEE S. B.<sup>1</sup>, OH B. G.<sup>1</sup>, JUNG Y. G.<sup>1</sup>, LEE H. G.<sup>1</sup>, KIM D. E.<sup>1</sup>, KANG H. S.<sup>1</sup> (Insertion Device Team, PAL)

## P2-pl,106

**Preliminary Design of a superconducting electron beam ion source at KOMAC** / 이승현<sup>1</sup>, 김한성<sup>1</sup>, 권혁중<sup>1</sup>, 조용섭<sup>1</sup> (한국원자력연구원, 양성자가속기연구센터)

## P2-pl,107

**초전도 HWR 가속기 빔 정합 기초 연구** / 권혁중<sup>1</sup>, 김한성<sup>1</sup>, 당정중<sup>1</sup>, 이승현<sup>1</sup>, 조용섭<sup>1</sup> (한국원자력연구원, 양성자가속기연구센터)

## P2-pl,108

**Commissioning Procedure of Linac and Undulators in PAL-XFEL\*** / YANG Haeryong<sup>1</sup> (PAL-XFEL, Pohang Accelerator Laboratory)

## P2-pl,109

**Numerical study on target/ion source for Li-8 beam at KOMAC** / DANG Jeongjeung<sup>1</sup>, KWON Hyeokjung<sup>1</sup>, LEE Pilsoo<sup>1</sup>, LEE Seunghyun<sup>1</sup>, KIMHansung<sup>1</sup>, SONG Younggil<sup>1</sup>, KIM Daeil<sup>1</sup>, CHO Yongsub<sup>1</sup> (Korea Multi-purpose Accelerator Complex, Korea Atomic Energy Research Institute)

## P2-pl,110

**Recent results on compact LWFA-based betatron x-ray source development** / PHUNG Vanessa Ling Jen<sup>1</sup>, KIM Jinju<sup>1</sup>, KIM Minseok<sup>1</sup>, SUK Hyyong<sup>1</sup> (Department of Physics and Photon Science, GIST)

## P2-pl,111

**Beam Position Monitor System for PAL-XFEL** / 김창범<sup>1</sup> (포항가속기연구소, 4세대 가속장치부)

## P2-pl,112

**Demonstration of Harmonic Lasing Self-Seeded Mode for Soft X-Rays at PAL-XFEL** / 남인혁<sup>1</sup>, 민창기<sup>1</sup>, 양해룡<sup>1</sup>, 김규진<sup>1</sup>, 김창범<sup>1</sup>, 강흥식<sup>1</sup> (포항공대, 포항가속기 연구소)

## P2-pl,113

**DIAC 중이온 빔 조사 챔버 기초 실험 (Basic test of a heavy ion beam irradiation target chamber for the DIAC)** / 이석관<sup>1</sup>, 허성렬<sup>1</sup>, 장대식<sup>1</sup>, 진정태<sup>1</sup>, 황철규<sup>1</sup>, 인상렬<sup>1</sup>, 오병훈<sup>1</sup> (한국원자력연구원, 핵융합기술개발부)

## P2-pl,114

**RAON 가속기의 RF 시스템 개발 현황** / 장효재<sup>1</sup>, 설경태<sup>1</sup>, 최오룡<sup>1</sup>, 손기택<sup>1</sup>, 이도윤<sup>1</sup> (기초과학연구원, 중이온가속기건설구축사업단)

## P2-pl,115

**Optimization of Electron Gun for C-band Klystron** / JANG Seungsoo<sup>1</sup>, HWANG Jihyun<sup>1</sup>, SEONG Taesik<sup>1</sup>, PARK Sung-Ju<sup>2</sup>, NAMKUNG Won<sup>2</sup>, CHO Moohyun<sup>3</sup> (Department of Physics, POSTECH, <sup>2</sup>Pohang Accelerator Laboratory, PAL, <sup>3</sup>Department of Physics and Division of Advanced Nuclear Engineering, POSTECH)

## P2-pl,116

**Nonlinear behavior in a free-electron laser oscillator based on a two frequency wiggler with higher transverse mode.** / 김기범<sup>1</sup> (강원대학교, 기초교육원)

## P2-pl,117

**RF Cavity Design of Klystron Using 3D CST Program** / HWANG Jihyun<sup>1</sup>, PARK Sung-Ju<sup>2</sup>, NAMKUNG Won<sup>2</sup>, CHO Moohyun<sup>3</sup> (Department of Physics, POSTECH, <sup>2</sup>Pohang Accelerator Laboratory, PAL, <sup>3</sup>Division of Advanced Nuclear Engineering, POSTECH)

## P2-pl,118

**RISP RFQ 초기 빔가속 시험** / 박범식<sup>1</sup>, 홍인석<sup>1</sup>, 장효재<sup>1</sup>, 장지호<sup>1</sup>, 김기동<sup>1</sup>,

김용환<sup>1</sup> (기초과학연구원, 중이온가속기건설구축사업단)

## P2-pl.119

RISP 초전도가속관 QWR / HWR 시제품 수직 저온성능시험 / 설계태<sup>1</sup>,  
김주완<sup>1</sup>, 이상빈<sup>1</sup>, 정회천<sup>1</sup> (기초과학연구원, 중이온가속기건설구축사업단)

## P2-pl.2 Plasma physics: Accelerator & beam applications 포스터 발표

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

## P2-pl.201

거대 과학장치 PAL-XFEL의 지반과 건물 바닥 변화를 실시간 측정하는  
장치 / 최효진<sup>1</sup>, 이상봉<sup>1</sup>, 이흥기<sup>1</sup>, 길계환<sup>1</sup>, 김승환<sup>1</sup>, 강홍식<sup>1</sup> (포항가속기연구소,  
가속기연구단)

## P2-pl.202

X-선 미세형광 실험에서 AI 차폐체에 의한 배경신호 제거 / 길계환<sup>1</sup>,  
최효진<sup>1</sup>, 임재홍<sup>1</sup>, 박성호<sup>2</sup>, 송원용<sup>2</sup> (Pohang Accelerator Laboratory, <sup>1</sup>Pohang  
University of Science and Technology)

## P2-pl.203

Progress of the RAON Fast Protection System Prototype / JIN  
Hyunchang<sup>1</sup>, LEE Sang-Il<sup>1</sup>, JANG Hyunman<sup>1</sup> (<sup>1</sup>Rare Isotope Science Project,  
Institute for Basic Science)

## P2-pl.204

High Stable Magnet Power Supply / 박기현<sup>1</sup>, 정성훈<sup>1</sup>, 정영규<sup>1</sup>, 김동연<sup>1</sup>,  
서형석<sup>1</sup>, 이흥기<sup>1</sup>, 이상병<sup>1</sup>, 오봉기<sup>1</sup> (포항가속기연구소, 4세대가속장치부)

## P2-pl.205

D-D 핵융합 반응 중성자 발생장치용 200 kV 가속관 제작 (Fabrication  
of a acceleration tube for D-D neutron generators) / 진정태<sup>1</sup>,  
허성렬<sup>1</sup>, 장대식<sup>1</sup>, 이석관<sup>1</sup>, 인상열<sup>1</sup>, 오병훈<sup>1</sup>, 이상진<sup>2</sup> (한국원자력연구원,  
핵융합기술개발부, <sup>2</sup>기초과학연구원, 시설건설사업부)

## P2-pl.206

4세대 200MW 모듈레이터 운전현황 / 박성수<sup>1</sup>, 김상희<sup>1</sup>, 이흥수<sup>1</sup>, 강홍식<sup>1</sup>  
(포항공대, 가속기연구소 4세대)

## P2-pl.207

전자 사이클로트론 공명 위치 및 운전 변수 조절을 통한 이온빔 인출  
최적화 / 함승기<sup>1</sup>, 이윤아<sup>1</sup>, 정경재<sup>1</sup>, 황용석<sup>1</sup> (서울대학교, 원자핵공학과)

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

## P2-pl.301

**K-DEMO 핵융합실증로의 삼중수소 자급 타당성 조사를 위한 증식블랭킷 모듈 레이어 구조 최적화** / 임기학<sup>1</sup>, 김홍택<sup>2</sup>, 권성진<sup>3</sup>, 박종성<sup>4</sup>  
(<sup>1</sup>국가핵융합연구소, DEMO기술연구부, <sup>2</sup>국가핵융합연구소, DEMO기술연구부, <sup>3</sup>국가핵융합연구소, DEMO기술연구부, <sup>4</sup>국가핵융합연구소, DEMO기술연구부)

## P2-pl.302

**레이저 산란을 이용한 오염 플라즈마 내부의 티끌입자 크기진단** / 심성웅<sup>1</sup>, 오차환<sup>1</sup> (<sup>1</sup>한양대학교, 물리학과)

## P2-pl.303

**Bounce-averaged gyrokinetic simulation of trapped electron turbulence in elongated tokamak plasmas** / QI Lei<sup>1</sup>, KWON Jae-Min<sup>1</sup>, HAHM T.S.<sup>1,2</sup>, YI Su Min<sup>1</sup> (<sup>1</sup>Advance Plasma Physics Department, National Fusion Research Institute, <sup>2</sup>Department of Nuclear Engineering, Seoul National University)

## P2-pl.304

**Thermo-Hydraulic Analysis of The KSTAR PF Cryogenic loop using SUPERMAGNET code** / LEE Hyunjung<sup>1</sup>, OH Sangjun<sup>1</sup>, JUNG Laurent<sup>1</sup>, OH Dong-keun<sup>1</sup> (<sup>1</sup>DEMO technology division, National Fusion Research Institute)

## P2-pl.305

**Development of 6.75 nm extreme ultra-violet movie camera for studying tungsten impurity transport in KSTAR** / CHAI Kil-Byoung<sup>1</sup>, SEON Changrae<sup>2</sup>, AN YoungHwa<sup>2</sup> (<sup>1</sup>Nuclear Data Center, Korea Atomic Energy Research Institute, <sup>2</sup>Diagnostics & CODAC Technology team, National Fusion Research Institute)

## P2-pl.306

**Full-orbit simul ation of energetic particles in tokamaks** / KIM Kimin<sup>1</sup>, RHEE T.<sup>2</sup>, KIM Junghee<sup>2</sup>, KIM J.-H.<sup>1</sup>, LEE S.<sup>1</sup>, JHANG H.<sup>1</sup> (<sup>1</sup>Advanced Physics Research Division, National Fusion Research Institute, <sup>2</sup>KSTAR Research Center, National Fusion Research Institute)

## P2-pl.307

**Phase-pattern formation in drift-wave turbulence** / LECONTE Michael<sup>1</sup>, JHANG Hogun<sup>1</sup> (<sup>1</sup>Advanced Physics Research Division, National Fusion Research Institute)

## P2-pl.308

**Characteristics of internal transport barriers in KSTAR** / 정진일<sup>1</sup>, 김현석<sup>1</sup>, 전영무<sup>1</sup>, 김재현<sup>1</sup>, 최민준<sup>1</sup>, 고진석<sup>1</sup>, 이규동<sup>1</sup>, 이형호<sup>1</sup>, 이수민<sup>1</sup>, 권재민<sup>1</sup>, 한상희<sup>1</sup>, 고원하<sup>1</sup>, 이종하<sup>1</sup>, 윤시우<sup>1</sup> (<sup>1</sup>국가핵융합연구소, KSTAR연구센터, 선형기술연구센터)

## P2-pl.309

**한국형 핵융합 실증로에서 GATO 코드를 이용한 낮은 모드의 선형 자기유체역학적 플라즈마 안정성 분석 연구** / 염준호<sup>1</sup>, 정로형<sup>1</sup>, 임기학<sup>1</sup>, 이수민<sup>2</sup> (<sup>1</sup>국가핵융합연구소, DEMO기술연구부, <sup>2</sup>국가핵융합연구소, 선형물리연구부)

## P2-pl.310

**Current Status of KSTAR Thomson Scattering Diagnostic System and System Upgrade Plan** / LEE Jongha<sup>1</sup>, KIM Hajin<sup>1</sup>, I.Yamada<sup>2</sup>, H.Funaba<sup>2</sup> (<sup>1</sup>KSTAR research Institute, National Fusion Research Institute, <sup>2</sup>Department of Helical Plasma Research, National Institute for Fusion Science)

## P2-pl.311

**Long pluse 중성입자빔의 Blip 신호를 이용한 Beam plasma의 Slowing down time 평가와 비교** / 이효종<sup>1</sup>, 광종구<sup>2</sup> (<sup>1</sup>한양대학교, 원자력공학과, <sup>2</sup>국가핵융합연구소, 가열진단연구부)

## P2-pl.312

**Feasibility study of ECH system for advanced tokamak operation in KSTAR** / JOUNG Mi<sup>1</sup>, WANG Sunjung<sup>1</sup>, KIM Sungguk<sup>1</sup>, KWAK Jonggu<sup>1</sup>, WOO Minho<sup>1</sup>, JEON Youngmu<sup>1</sup>, OH Yeongkook<sup>1</sup> (<sup>1</sup>KSTAR research center, National Fusion Research Institute)

## P2-pl.313

**Lower hybrid 주파수 영역의 고속파를 이용한 전류 구동용 안테나 연구** / 이현우<sup>1</sup>, 김선호<sup>2</sup>, 조종갑<sup>3</sup>, 왕종인<sup>3</sup>, 황용석<sup>3</sup>, 이병제<sup>1</sup> (<sup>1</sup>광운대학교, 전파공학과, <sup>2</sup>한국원자력연구원, 핵융합공학기술개발부, <sup>3</sup>서울대학교, 원자핵공학과)

## P2-pl.314

**Preliminary design of fast-ion D-alpha (FIDA) diagnostics in KSTAR** / YOO Jeongwon<sup>1</sup>, KIM Junghee<sup>1</sup>, OH Soogi<sup>2</sup>, KIM Jun-Young<sup>3</sup>, TERZOLO Laurent<sup>1</sup>, KANG Jisung<sup>1</sup>, RHEE Tongnyeo<sup>1</sup>, KIM Hyunseok<sup>1</sup>, SON Soo-Hyun<sup>1</sup>, KO Won-Ha<sup>1</sup>, NAM Yong-Un<sup>1</sup>, PARK Byoung-Ho<sup>1</sup> (<sup>1</sup>National Fusion Research Institute, KSTAR연구센터, <sup>2</sup>Ajou University, 물리학과, <sup>3</sup>Plasmapp co. Ltd., Plasmapp co. Ltd.)

## P2-pl.315

**Effect of the pressure gradient in the connection region on the PBM staility** / KIM Sangkyeun<sup>1</sup>, NA Yongsu<sup>1</sup>, KWON Ohjin<sup>2</sup> (<sup>1</sup>Department of Nuclear Engineering, Seoul National University, <sup>2</sup>Department of Physics, Daegu



University)

## P2-pl.316

**Effects of parallel flow fluctuation on zonal flow generation: A gyrokinetic simulation study** / 이수민<sup>1</sup>, 장호건<sup>1</sup>, 권재민<sup>1</sup>  
(<sup>1</sup>국가핵융합연구소, 선행물리연구부)

## P2-pl.317

**Spatial configuration of erosion and deposition of a-C:H thin films due to impinging deuterium and carbon ions in an ECR Chamber** / PARK Sun-A<sup>1</sup>, SO Hyeon Seob<sup>1</sup>, KIM Sung<sup>1</sup>, CHOI Suk-Ho<sup>1</sup>, LEE Hosun<sup>1</sup>, KIM Nam-Kyun<sup>2</sup>, SONG Jae Min<sup>2</sup>, KIM Gon-Ho<sup>2</sup>, HONG Suk-Ho<sup>3</sup>  
(<sup>1</sup>Department of Applied Physics, Kyung Hee University, <sup>2</sup>Department of Energy System Engineering, Seoul National University, <sup>3</sup>Plasma-Surface Interaction, National Fusion Research Institute)

## P2-pl.318

**Design features and commissioning of the pulse arc plasma source based on high power Marx generator for the VEST NBI system** / JUNG Bongki<sup>1</sup>, KIM Sunho<sup>1</sup>, KIM Taesung<sup>1</sup>, JEONG Seungho<sup>1</sup>, LEE Kwangwon<sup>1</sup>  
(<sup>1</sup>Nuclear Fusion Technology Development Division, Korea Atomic Energy Research Institute)

## P2-pl.319

**Variations of divertor particle flux in the inter edge-localized mode crashes in KSTAR tokamak** / THATIPAMULA Shekar Goud<sup>1</sup>, KIM Heung-Su<sup>2</sup>, KIM Minho<sup>3</sup>, YUN Gunsu<sup>3</sup>, BAK Jun-Gyo<sup>2</sup>, LEE Hyung-HO<sup>1</sup>, HONG Suk-Ho<sup>1</sup>  
(<sup>1</sup>DEMO Technology Division, National Fusion Research Institute, <sup>2</sup>KSTAR Research Center, National Fusion Research Institute, <sup>3</sup>Department of Physics, Pohang University of Science and Technology)

## P2-pl.320

**Feeble Zonal Flows (ZF) and Geodesic Acoustic Mode (GAM) near the Marginal Stability Boundary in Pedestal Plasma: a scenario for stationary I-mode** / SINGH R.<sup>1</sup>, JHANG H.<sup>1</sup>, KIM J.-H.<sup>1</sup>  
(<sup>1</sup>Advanced Physics Research Division, National Fusion Research Institute)

## P2-pl.321

**KSTAR에서 IR camera를 이용한 실시간 외벽온도 감시시스템 개념설계** / 서동철<sup>1</sup>, 권기일<sup>2</sup>, 한상희<sup>3</sup>  
(<sup>1</sup>국가핵융합연구소, DEMO 기술연구부, <sup>2</sup>국가핵융합연구소, 토카막제어연구부, <sup>3</sup>국가핵융합연구소, 고성능플라즈마물리연구부)

## P2-pl.322

**Synergy Effects of Top-launch ECCD and Midplane LHCD in KSTAR** / BAE Young-soon<sup>1</sup>, NAMKUNG Won<sup>2</sup>, CHO Moo-hyun<sup>2</sup>  
(<sup>1</sup>KSTAR Research

Center, National Fusion Research Institute, <sup>2</sup>Physics of Department, POSTECH)

## P2-pl.323

**Plasma density profile measurements by using reflectometer during L-H transition** / SEO Seong-Heon<sup>1</sup>  
(<sup>1</sup>KSTAR center, National Fusion Research Institute)

## P2-pl.324

**Comparative analysis of electron temperature profiles measured by ECE and Thomson scattering diagnostics on KSTAR** / LEE Kyudong<sup>1</sup>, LEE Jongha<sup>1</sup>  
(<sup>1</sup>KSTAR Research Center, National Fusion Research Institute)

## P2-pl.325

**Effects of Resonant Magnetic Perturbation in Edge Pedestal Collapse** / KIM Juhung<sup>1</sup>, KIM S. S.<sup>1</sup>, JHANG Hogun<sup>1</sup>  
(<sup>1</sup>Advanced Technology Center, National Fusion Research Institute)

## P2-pl.326

**Experimental results of an neutral beam ion source for VEST tokamak plasma heating** / 김태성<sup>1</sup>, 정봉기<sup>1</sup>, 정승호<sup>1</sup>, 박민<sup>1</sup>, 장두희<sup>1</sup>, 이광원<sup>1</sup>, 인상열<sup>1</sup>  
(<sup>1</sup>한국원자력연구원, 핵융합기술개발부)

## P2-pl.327

**Preliminary study on the Alfvén eigenmode controls in KSTAR** / 김정희<sup>1</sup>, 이동렬<sup>1</sup>, 우민호<sup>1</sup>, 김현석<sup>1</sup>, 박준교<sup>1</sup>, 변철식<sup>4</sup>, 나용수<sup>4</sup>, 강지성<sup>1</sup>, 전영무<sup>1</sup>, 이상일<sup>2</sup>, 조정민<sup>4</sup>, 천문성<sup>3</sup>, 김준영<sup>5</sup>, SHINOHARA Kouji<sup>6</sup>, 장호건<sup>2</sup>, CHENG Frank<sup>7</sup>  
(<sup>1</sup>국가핵융합연구소, KSTAR 연구센터, <sup>2</sup>국가핵융합연구소, 선행기술연구센터, <sup>3</sup>국가핵융합연구소, ITER 한국사업단, <sup>4</sup>서울대학교, 원자핵공학과, <sup>5</sup>Plasmapp Co. Ltd., <sup>6</sup>National Institutes for Quantum and Radiological Science and Technology, Naka, <sup>7</sup>National Cheng Kung University, Tainan)

## P2-pl.328

**Progress on development of new antenna for KSTAR LHCD system** / KIM J. <sup>1</sup>, HAN J. W. <sup>1</sup>, WANG S. <sup>1</sup>, SEONG T. S. <sup>2</sup>, NAMKUNG W. <sup>3</sup>, CHO M. <sup>4</sup>  
(<sup>1</sup>Heating and current drive team, KSTAR Research Center, National Fusion Research Institute, <sup>2</sup>Department of physics, POSTECH, <sup>3</sup>Pohang Accelerator Laboratory, <sup>4</sup>Department of physics and Division of Advanced Nuclear Engineering, POSTECH)

## P2-pl.329

**KSTAR 환경에서의 파장에 따른 간섭계 성능 분석** / 남용운<sup>1</sup>, 이관철<sup>1</sup>, 전준우<sup>1</sup>, 이우창<sup>1</sup>  
(<sup>1</sup>국가핵융합연구소, 플라즈마진단연구팀)

**P2-pl.4****Plasma physics: Basic plasma phenomena  
포스터 발표**

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

**P2-pl.401**

**Characterization of Broadband Soft X-ray from Laser Plasma**  
/ KANG Gyeongbo<sup>1,2</sup>, BAE Leejin<sup>1</sup>, KIM Minju<sup>1</sup>, CHO Minsang<sup>1,2</sup>, YAP Chuinhong<sup>1,2</sup>, CHO Byoung-ick<sup>1,2</sup> (<sup>1</sup>Department of Physics and Photon Science, Gwangju Institute of Science and Technology, <sup>2</sup>Center for Relativistic Laser Science, Institute for Basic Science)

**P2-pl.402**

**AC conductivity measurement for warm dense aluminum using a chirped probe pulse** / KIM Minju<sup>1</sup>, JUNG Jeahyung<sup>1</sup>, CHO Byoung-ick<sup>1</sup> (<sup>1</sup>Department of Physics and Photon science, Gwangju Institute of Science and Technology)

**P2-pl.5****Plasma physics: Plasma instruments, processing & applications  
포스터 발표**

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

**P2-pl.501**

**EPICS based data acquisition and archive system for the KoHLT-EB**  
/ CHANG Daesik<sup>\*1</sup>, KIM Sukkwon<sup>1</sup>, LEE Dongwon<sup>1</sup>, CHO Seungyon<sup>2</sup> (<sup>1</sup>Nuclear Fusion Engineering Development Division, Korea Atomic Energy Research Institute, <sup>2</sup>TBM Technology Team, National Fusion Research Institute)

**P2-pl.502**

**An Integrated Model for Rectangular RF Driven Ion Sources** / 허성렬<sup>\*</sup>, 박민<sup>\*</sup>, 정봉기<sup>\*</sup>, 장두희<sup>\*</sup>, 김태성<sup>\*</sup>, 김선호<sup>\*</sup>, 정승호<sup>\*</sup> (<sup>\*</sup>한국원자력연구원, 핵융합기술개발부)

**P2-pl.503**

**Preliminary study on plasma processing control based on plasma diagnostics** / 김대웅<sup>\*</sup>, 허민<sup>\*</sup>, 강우석<sup>\*</sup>, 이재옥<sup>\*</sup>, 이진영<sup>\*</sup> (<sup>\*</sup>Department of Plasma Engineering, Korea Institute of Machinery and Materials)

**P2-pl.504**

**Density measurement of argon metastable atoms in a microwave plasma source based on the surface wave with a slit antenna** / 박승일<sup>\*</sup>, 윤성영<sup>\*</sup>, 이창호<sup>\*</sup>, 유승민<sup>\*</sup>, 김성봉<sup>\*</sup>, 유석재<sup>\*</sup> (<sup>\*</sup>국가핵융합연구소, 플라즈마기술연구센터)

**P2-pl.505**

**Numerical Investigation on the Particle Behavior Injected into an RF Induction Plasma for the Spheroidization of Titanium Alloy Powder** / NAM Junseok<sup>1</sup>, YANG Inmok<sup>1</sup>, KIM Donguk<sup>1</sup>, LEE Miyeon<sup>1</sup>, KIM Jeongsoo<sup>1</sup>, YANG Siyoung<sup>2</sup>, PARK Eonbyeong<sup>3</sup>, SEO Junho<sup>\*1</sup> (<sup>1</sup>Department of Quantum System Engineering, Chonbuk National University, <sup>2</sup>Graduate School of Flexible and Printable Electronics, Chonbuk National University, <sup>3</sup>Metallic Materials Research Group, Research Institute of Industrial Science & Technology)

**P2-pl.506**

**Experimental study on antibacterial efficacy with a dielectric barrier discharge air plasma at atmospheric pressure** / AHN Chan Hoon<sup>1,2</sup>, CHOI Jun<sup>\*1</sup> (<sup>1</sup>Advanced Forming Process R&D Group, Korea Institute of Industrial Technology, <sup>2</sup>Department of Electrical Engineering, Pusan National University)

**P2-pl.507**

**Study on Hydrophilic Effect on the PMSQ Surface using**

**IndirectNonthermal Atmospheric Argon Plasma operating with Microwave Power** / PARK Ju Young<sup>1,3</sup>, AHN Chan Hoon<sup>1,4</sup>, KIM Suhan<sup>2</sup>, CHOI Jun<sup>\*1</sup> (<sup>1</sup>Advanced Forming Process R&D Group, Korea Institute of Industrial Technology, <sup>2</sup>Green Materials & Processes Group, Korea Institute of Industrial Technology, <sup>3</sup>Department of Electrical and Electronic Engineering, University of Ulsan, <sup>4</sup>Department of Electrical Engineering, Pusan National University)

**P2-se**

Semiconductor physics  
포스터 발표

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

**P2-se.001**

**Ab initio study of bilayer heterostructures based on transition metal phosphorous trisulfide** / PARK Jinwoo<sup>1</sup>, MIN Kyung-Ah<sup>1</sup>, HONG Suklyun<sup>\*1</sup> (<sup>1</sup>Graphene Research Institute and Department of Physics, Sejong University)

**P2-se.002**

**Effect of stoichiometric ratios on thermal transport properties of Cu<sub>2</sub>-xSe system** / VU Thi Hoa<sup>1</sup>, PHAM Anh Tuan<sup>1</sup>, CHO Sunglae<sup>\*1</sup> (<sup>1</sup>Department of Physics, University of Ulsan)

**P2-se.003**

**보론 나이트라이드 나노튜브 성장 메커니즘 : The secret of boron nitride nanotube birth** / 김준희<sup>1,2</sup>, 조현진<sup>3</sup>, 황재훈<sup>1,4</sup>, 이현수<sup>1</sup>, 김철생<sup>2,4</sup>, 김명중<sup>\*1</sup> (<sup>1</sup>한국과학기술연구원 전북분원, 양자응용복합소재 연구센터, <sup>2</sup>전북대학교, 바이오나노시스템공학과, <sup>3</sup>전북대학교, 유기소재파이버공학과, <sup>4</sup>전북대학교, 기계설계공학과)

**P2-se.004**

**그래핀 결점이 내부식성에 미치는 영향** / 황재훈<sup>1,3</sup>, 김준희<sup>1,2</sup>, 김희수<sup>1,4</sup>, 여동규<sup>1,4</sup>, 서태훈<sup>1,4</sup>, 이현수<sup>1</sup>, 박찬희<sup>2,3</sup>, 김철생<sup>2,3</sup>, 김명중<sup>\*1</sup> (<sup>1</sup>한국과학기술연구원 전북분원, 양자응용복합소재 연구센터, <sup>2</sup>전북대학교, 바이오나노시스템 공학과, <sup>3</sup>전북대학교, 기계설계공학부, <sup>4</sup>전북대학교, 반도체화학공학부)

**P2-se.005**

**Liquid-exfoliated MoS<sub>2</sub> thin films and photovoltaic device application** / LEE Seung Kyo<sup>1</sup>, CHU Dongil<sup>1</sup>, KIM Eun Kyu<sup>\*1</sup> (<sup>1</sup>한양대학교 물리학과)

**P2-se.006**

**Indium 불순물 치환 도핑에 따른 SnSe 층상구조 반도체의 전도 물성 및 열전 특성 변화** / 방극찬<sup>1</sup>, 류정현<sup>1</sup>, 방준호<sup>2</sup>, 이기문<sup>\*1</sup> (<sup>1</sup>Department of Physics, Kunsan National University, <sup>2</sup>Tokyo Institute of Thechnology, Materials Research Center for Element Strategy)

**P2-se.007**

**Exciton peak shift in the transition metal dichalcogenides MoSe<sub>2</sub> and WSe<sub>2</sub> with temperature and magnetic field** / KIM Jangwon<sup>1</sup>, JEONG Jae-Hun<sup>1</sup>, KANG Hee Seong<sup>2</sup>, LEE Chul-Ho<sup>2</sup>, CHO Mann-Ho<sup>1</sup>, KIM Jae

P2  
포  
스  
터  
세  
션

Hoon<sup>\*1</sup> (<sup>1</sup>Department of Physics, Yonsei University, <sup>2</sup>KU-KIST Graduate School of Converging Science and Technology, Korea University)

#### P2-se,008

**Indium 불순물 치환을 통한 n-type SnSe<sub>2</sub> 층상구조 반도체의 p-type 전이 현상** / 류정현<sup>1</sup>, 방극찬<sup>1</sup>, 이기문<sup>1</sup>, 방준호<sup>2</sup> (<sup>1</sup>Department of Physics, Kunsan National University, <sup>2</sup>Materials Research Center for Element Strategy, Tokyo Institute of Technology)

#### P2-se,009

**Control of growth parameters for high-quality MoS<sub>2</sub> and van der Waals heterostructures** / JUNG Yeonjoon<sup>1</sup>, JEONG Jae Hwan<sup>1</sup>, LEE Gwan-Hyoung<sup>\*1</sup> (<sup>1</sup>Department of Materials Science and Engineering, Yonsei University)

#### P2-se,010

**Growth of wafer-scale single crystal monolayer MoS<sub>2</sub>** / KIM Hangyeol<sup>1</sup>, LEE Gwan-Hyoung<sup>\*1</sup>, KANG Sojung<sup>1</sup> (<sup>1</sup>Department of Material Science and Engineering, Yonsei University)

#### P2-se,011

**Light-emitting tunneling diodes of CVD-grown MoS<sub>2</sub>** / RYU Huije<sup>1</sup>, KWON Junyoung<sup>1</sup>, JUNG Yeonjoon<sup>1</sup>, LEE Gwan-Hyoung<sup>\*1</sup> (<sup>1</sup>Yonsei university, 신소재공학과)

#### P2-se,012

**양극 산화 알루미늄으로 제작한 그래핀 나노 mesh 투명전극/Si 태양전지의 특성 연구** / 서상우<sup>1</sup>, 김주환<sup>1</sup>, 김성<sup>1</sup>, 최석호<sup>\*1</sup> (<sup>1</sup>경희대학교, 응용물리학과)

#### P2-se,013

**그래핀 양자점의 농도에 따른 그래핀 양자점/그래핀 전계효과 트랜지스터의 전기적, 광학적, 및 구조적 특성 연구** / 장찬욱<sup>1</sup>, 김성<sup>1</sup>, 최석호<sup>\*1</sup> (<sup>1</sup>경희대학교, 응용물리학과)

#### P2-se,014

**다층 그래핀을 투명 전극으로 사용하여 제작한 유연한 페로브스카이트 태양전지의 그래핀 층수 의존성 연구** / 이하승<sup>1</sup>, 김종민<sup>1</sup>, 서상우<sup>1</sup>, 김성<sup>1</sup>, 최석호<sup>\*1</sup> (<sup>1</sup>경희대학교, 응용물리학과)

#### P2-se,015

**Ferromagnetic and ambipolar behaviors from MnO<sub>2</sub>-doped MoS<sub>2</sub> flakes** / PARK Chang-Soo<sup>1</sup>, CHU Dongil<sup>1</sup>, SHON Yoon<sup>2</sup>, LEE Juwon<sup>2</sup>, KIM Eun Kyu<sup>\*1</sup> (<sup>1</sup>Physics, Hanyang University, <sup>2</sup>Quantum Functional Semiconductor Research Center, Dongguk University)

#### P2-se,016

**금 나노입자 및 bis(trifluoromethanesulfonyl)-amide로 이중 도핑된 그래핀 투명전극을 이용한 다공성 실리콘 태양전지** / 김주환<sup>1</sup>, 이하승<sup>1</sup>, 장찬욱<sup>1</sup>, 김성<sup>1</sup>, 최석호<sup>\*1</sup> (<sup>1</sup>경희대학교, 응용물리학과)

#### P2-se,017

**은나노선과 AuCl<sub>3</sub>로 이중 도핑된 그래핀 투명전극을 이용한 Si 태양전지의 제작 및 특성 연구** / 김종민<sup>1</sup>, 서상우<sup>1</sup>, 이하승<sup>1</sup>, 김성<sup>1</sup>, 최석호<sup>\*1</sup> (<sup>1</sup>경희대학교, 응용물리학과)

#### P2-se,018

**Observation, characterization, and modification of MoS<sub>2</sub> grain boundaries using atomic force microscopy** / JEONG Jae Hwan<sup>1</sup>, LEE Gwan-Hyoung<sup>\*1</sup> (<sup>1</sup>Materials Science and Engineering, Yonsei University)

#### P2-se,019

**Silver Nanowire-Dispersed Graphene for Enhancing Gas Sensitivity** / 누엔투이향<sup>1</sup>, 김유중<sup>1</sup>, 최수호<sup>1</sup>, 양우철<sup>\*1</sup> (<sup>1</sup>동국대학교, 물리학과)

#### P2-se,020

**Micro-Raman imaging of defects and strains in graphene** / 이태건<sup>1</sup>, 노희석<sup>1</sup>, 김명중<sup>2</sup> (<sup>1</sup>전북대학교, 물리학과, <sup>2</sup>한국과학기술연구원, 양자응용복합소재 연구센터)

#### P2-se,021

**Performance and Stability Enhancement of Tin Halide Perovskite Solar Cells with Reducing Additives** / NGUYEN Bich Phuong<sup>1</sup>, JUNG Hye Ri<sup>1</sup>, KIM Juran<sup>1</sup>, JO William<sup>\*1</sup> (<sup>1</sup>New and Renewable Energy Research Center (NREC), Department of Physics, Ewha Womans University)

#### P2-se,022

**Implications of ferroelectric polarization and hysteretic behaviors on hybrid perovskite absorber thin films** / 정혜리<sup>1,2</sup>, NGUYEN Bich Phuong<sup>1,2</sup>, 김주란<sup>1,2</sup>, 조월령<sup>\*1,2</sup> (<sup>1</sup>이화여자대학교, 물리학과, <sup>2</sup>이화여자대학교, Renewable Energy Research Center (NREC))

#### P2-se,023

**Optimization of Blue Sensitive Organic Materials for CMOS Image Sensor** / 백효원<sup>1</sup>, 송승현<sup>2</sup>, 박주형<sup>2</sup>, 김민원<sup>2</sup>, 권효준<sup>2</sup>, 김재곤<sup>1</sup>, 정의현<sup>2</sup>, 박재근<sup>\*1,2</sup> (<sup>1</sup>Department of Nanoscale Semiconductor Engineering, Hanyang University, <sup>2</sup>Department of Electronics and Computer Engineering, Hanyang University)

#### P2-se,024

**Organic Material Based Green Sensitive CMOS Image Sensor**

/ 정의현<sup>1</sup>, 송승현<sup>1</sup>, 박주형<sup>1</sup>, 권효준<sup>1</sup>, 김민원<sup>1</sup>, 김재곤<sup>2</sup>, 백효원<sup>2</sup>, 박재근<sup>1,2</sup>  
 (<sup>1</sup>Department of electronics and computer engineering, Hanyang University,  
<sup>2</sup>Department of nanoscale semiconductor engineering, Hanyang University)

P2-se,025

**Red Sensitive Organic-photoconductive Material Based CMOS Image Sensor** / 김재곤<sup>1</sup>, 송승현<sup>2</sup>, 박주형<sup>2</sup>, 김민원<sup>2</sup>, 권효준<sup>2</sup>, 백효원<sup>1</sup>, 정의현<sup>2</sup>, 박재근<sup>1,2</sup> (<sup>1</sup>Department of Nanoscale semiconductor engineering, Hanyang University, <sup>2</sup>Department of Electronics and computer engineering, Hanyang University)

P2-se,026

**Highly efficient flexible Cu(In,Ga)Se<sub>2</sub> (CIGS) thin-film light absorber locally characterized by Kelvin probe force microscopy** / KIM Juran<sup>1</sup>, KIM Jayeong<sup>1</sup>, YOON Seokhyon<sup>1</sup>, GWAK Jihye<sup>2</sup>, YUN Jae-Ho<sup>2</sup>, JO William<sup>1</sup> (<sup>1</sup>Department of Physics and New & Renewable Energy Research Center (NREC), Ewha Womans University, <sup>2</sup>Photovoltaic Laboratory, Korean Institute of Energy Research)

P2-se,027

**Optical transitions of MAPbCl<sub>3</sub>-xBrx organic-inorganic perovskite crystals under high magnetic fields** / KIM Yongmin <sup>1</sup>, SHIN Y. H.<sup>1</sup>, JEONG M. S.<sup>2</sup>, NOJIRI H.<sup>3</sup> (<sup>1</sup>Physics, Dankook University, <sup>2</sup>Energy Science, Sung Kyun Kwan University, <sup>3</sup>IMR, Tohoku University)

P2-se,028

**산화 인듐 촉매를 이용한 절연 기판상의 대면적 그래핀 직접 합성** / 이나은<sup>1</sup>, 조성오<sup>1</sup>, 김정우<sup>1</sup>, 이상윤<sup>1</sup> (<sup>1</sup>카이스트, 원자력및양자공학과)

P2-se,029

**Photo-responsive characteristics of MoS<sub>2</sub>/ZnTMP hybrids and application to photo-transistors** / CHAE Jiwoong<sup>1</sup>, LEE Suk Joong<sup>2</sup>, KIM Jeongyong<sup>3</sup>, JOO Jinsoo<sup>1</sup> (<sup>1</sup>고려대학교, 물리학과, <sup>2</sup>고려대학교, 화학과, <sup>3</sup>성균관대학교, 에너지과학과)

P2-te

Physics Teaching  
포스터 발표

Hanging posters: 2017.10.26 Thursday 13:00 - 10.27 Friday 12:00

Presentation: 2017.10.26 Thursday 18:00-19:30

Place: Exhibition Hall

P2-te,001

**마인드 맵을 통한 초등학교의 자기장 개념 유형 분석** / 박종호<sup>1</sup>  
 (<sup>1</sup>진주교육대학교, 과학교육과)

P2-te,002

**초등학생들의 사고양식, 학습양식, 과학적 의사소통능력에 따른 학업성취수준의 상관관계 연구** / 박종호<sup>1</sup> (<sup>1</sup>진주교육대학교, 과학교육과)

P2-te,003

**Practical Instruction of [Electrical Workings] in Primary School Science** / KIM Taekyu<sup>1</sup> (<sup>1</sup>Department of Science Education, Jeonju National University of Education)

P2-te,004

**Practical Instruction of [Mirror and Shadow] in Primary School Science** / KIM Taekyu<sup>1</sup> (<sup>1</sup>Department of Science Education, Jeonju National University of Education)

P2-te,005

**과학교육을 위한 논의 동적 모형안에 대한 연구** / HYUN Donggeul<sup>1</sup>, JHO Hunkoog<sup>2</sup> (<sup>1</sup>제주대학교, 교육대학, <sup>2</sup>단국대학교, 교양학부)

P2-te,006

**Analogous Abduction in the Discovery of a Transistor and Application of modular project for the secondary students' Understanding of a Transistor effect.** / KIM Jaekwon<sup>1</sup>, KIM youngmin<sup>2</sup> (<sup>1</sup>Science Education, Munsu Highschool, <sup>2</sup>Department of Physics Education, Pusan National University)

P2-te,007

**과학교육에서의 인성교육에 대한 델파이 연구** / 강유진<sup>1</sup>, 남정희<sup>2</sup>  
 (<sup>1</sup>부산대학교, 물리교육과, <sup>2</sup>부산대학교, 화학교육과)

P2-te,008

**과학인성에 대한 과학교사의 인식 조사 도구 개발 및 적용** / 정운기<sup>1</sup>, 남일균<sup>1</sup>, 임성민<sup>1</sup> (<sup>1</sup>대구대학교, 과학교육과)

P2-te,009

**교사를 위한 일반상대론 강의에서 일반공변성에 관한 논의의 특징** /

이은예<sup>1</sup>, 김홍빈<sup>\*2</sup>, 이경호<sup>3</sup> (<sup>1</sup>서울대학교, 물리교육과, <sup>2</sup>서울대학교, 물리교육과,  
<sup>3</sup>서울대학교, 물리교육과)

P2-te,010

양자역학의 개념적 구조: 양자얽힘과 C2의 논리-대수적 구조를 중심으로  
/ 김상범<sup>1</sup>, 김민서<sup>1</sup>, 백승재<sup>1</sup>, 김재영<sup>1</sup>, 이기준<sup>\*2</sup> (<sup>1</sup>한국과학영재학교, 물리전공,  
<sup>2</sup>대구경북과학기술원, 융복합대학 기초학부)

P2-te,011

Design and Simulation of Piezoelectric Energy Harvesting /  
MOREIRA Gabriel Souza<sup>1</sup>, LEE Yourack<sup>1</sup>, SUH Dongseok<sup>\*1</sup> (<sup>1</sup>Department of  
Energy Science, Sungkyunkwan University)

The Korean Physical Society

# 학부생 작품발표회



0017-0001

**ITO 기판의 O<sub>2</sub> plasma 처리에 의한 PEDOT:PSS/ITO의 접촉 특성 향상 연구** / 최석호 (지도교수), 김준수 (경희대학교)

0017-0002

**스마트폰 애플리케이션을 활용한 동기화 과정과 안정성 연구** / 손승우 (지도교수), 김도협, 임소희, 남선호, 이현우, 김재현 (한양대학교)

0017-0003

**토끼의 경혈점 족삼리와 합곡에 전기침 자극에 따른 경락순환계 프리모판의 형태 관찰 및 유전자 분석** / 이상석 (지도교수), 김수희, 최다운, 최상현, 신준영 (상지대학교)

0017-0004

**Yb 도핑 광섬유의 포토다크닝 측정 연구** / 김지원 (지도교수), 오예진 (한양대학교)

0017-0005

**Efficiency Enhancement of Organic Light-Emitting Diodes by Embedding Carbon Based Materials** / 류승윤 (지도교수), 이원호 (고려대학교)

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유성미	B5.07	이강영	C2.07, C2.06, B1.07	이동윤	P2-co.407	이상진	P2-pl.205
유승민	P2-pl.504	이건희	P1-se.006	이동진	P2-ap.121	이상한	D4.05
유연수	C4.04	이경범	D4.05	이동진	P1-ap.205	이상현	D4.06, G4.06
유영석	P1-co.411	이경석	C14.02	이동하	B1.01	이상화	P1-bp.025
유인권	D4.06	이경세	C2.07, C2.06	이동하	B1.02, P2-pa.303	이상후	P2-op.024
유인권	G4.06	이경준	H7.04, P1-co.306	이동하	P2-pa.305, B1.03, P2-pa.307, P2-pa.309, P2-pa.310, P2-pa.311	이상훈	E12.06
유인태	B1.01	이경필	G2.04			이상훈	D10.05
유인태	B1.02, P2-pa.303	이경필	F1.01	이동현	P1-ap.415	이상훈	C4.04
유인태	C4.04	이경호	P2-te.009, E5.05	이동호	P2-pl.103	이상훈	E2.03
유인태	P2-pa.305, B1.03, P2-pa.307, P2-pa.309, P2-pa.310, P2-pa.311	이관우	P1-co.210	이두용	E12.05	이상훈	P2-pa.123
유인하	E11.03	이관철	P2-pl.329	이명복	P1-ap.404	이석관	P2-pl.205, P2-pl.113
유재수	P2-op.012, F6.05	이관형	F6.04	이무성	D14.06	이석천	E3.04
유재용	P1-ap.410, P1-ap.411	이관호	P1-pl.025	이무현	P2-pa.306	이선숙	C12.03
유재인	P1-ap.410	이광복	D4.04, C4.07	이무현	A1.04	이성구	H10.04
유재철	A6.03	이광원	P2-pl.326	이미경	P1-ap.411	이성국	G3.08
유종희	B1.01	이광진	D12.07	이민기	D11.05	이성민	P2-co.408
유종희	B1.02, P2-pa.303	이광호	G3.03	이민성	B8.03, E8.04	이성민	E2.03, A2.05
유종희	P2-pa.305, B1.03, P2-pa.307, P2-pa.309, 2-pa.311, P2-pa.310	이규동	P2-pl.308, P1-pl.014	이민진	A2.05	이성빈	G9.04
유창환	C11.01	이규철	D12.03	이민호	A5.04, P1-at.004	이성연	F5.02
유태균	H6.07	이근우	C11.01	이범준	P2-op.024	이성제	P2-op.016
유태준	H10.05	이기문	P2-se.008, P1-se.022, P1-se.021, P2-se.006	이범훈	A3.04	이성훈	P2-pa.318, P1-se.024
유태준	P2-op.008, P2-op.020	이기봉	E11.03	이병완	P1-co.313	이세욱	P2-pa.102
유희동	F1.02	이기원	P1-ap.402, P1-ap.401	이병제	P2-pl.313	이세욱	C4.04
유희동	G2.01, G2.04, E1.01	이기주	F5.02	이병찬	P1-pl.027, P1-pl.026, C11.01	이세호	C8.05
윤기용	F13.02	이기준	F5.01	이병학	H10.02	이세희	P1-ap.204
윤미진	G3.07	이기현	P2-te.010	이보람	A6.03	이수도	A2.01
		이기훈	P1-pl.004	이봉주	P1-ap.404	이수민	P2-pl.308, P2-pl.309, P2-pl.316
			C9.03	이삼녕	P1-se.016, P1-se.015,	이수아	E5.06
						이수연	G12.06

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이수용	P1-co.404, F7.05	이은경	P2-pa.306	이지원	P1-nu.021	이혜영	P2-pa.304
이수진	C12.03	이은숙	P1-co.505, G8.03	이진영	P2-pl.503	이혜진	P2-pa.318
이수현	P2-op.012	이은예	P2-te.009	이진호	C4.08	이호식	B8.03
이수형	A4.02	이인근	D11.02	이진환	G9.04	이호식	G8.02, F13.02
이수형	A13.05	이인수	P2-pa.107	이창	P2-pa.318	이흥기	P2-pl.201, P2-pl.204
이순규	H2.02	이인수	P2-pa.112, C2.01	이창열	P2-op.021, P1-se.028	이흥석	P1-se.013
이승란	G8.07	이인수	P2-pa.126	이창호	P2-pl.504	이황운	H10.04
이승무	P2-op.012	이인호	F13.05	이창훈	C11.03, P1-nu.021	이효상	D4.04, C4.07
이승민	G10.06	이일맥	P1-nu.014	이창희	D12.07	이효원	F2.05
이승석	P2-op.009	이일범	P1-bp.005	이철균	D14.06, P1-bp.031	이효종	P2-pl.311
이승엽	P2-ap.108	이장재	F14.02	이철호	F6.04	이흥수	P2-pl.206
이승준	D14.03	이재광	F13.07	이춘식	P1-nu.014	인상렬	P2-pl.113
이승준	P1-ap.415	이재동	A5.03, D7.03, P2-co.304, P1-co.207	이택희	B12.05	인상열	P2-pl.205, P2-pl.326
이승진	A6.03			이태건	P2-se.020	임계엽	C2.04
이승철	D10.04	이재란	C10.03	이태길	P1-ap.415	임규옥	B13.04
이승현	P2-pl.106, P2-pl.107	이재성	D2.04	이태우	B12.05	임기수	P2-op.013
이승호	P2-pa.101, P1-ap.413	이재옥	P2-pl.503	이태윤	H7.04, P1-co.306	임기학	P2-pl.301, P2-pl.309
이승훈	P2-pl.103	이재원	T4.01	이태호	C11.03	임기홍	P1-se.013
이승훈	D9.03	이재찬	G9.09	이필수	P1-nu.010	임도균	A11.04
이시현	F13.06, P2-co.201	이재학	P1-se.016, P1-se.015	이하승	P2-se.017, P2-se.016, P2-se.014	임동석	P2-ap.111, P2-ap.113
이어확	A11.04	이재훈	D14.03			임명신	G3.08
이연의	D12.07	이재훈	P2-op.014	이한석	P2-op.014	임봉휘	D4.06, G4.06
이영백	G12.01	이정섭	H10.03	이한열	C4.04, F1.01	임성민	P2-te.008
이영범	C12.03	이종만	D4.05	이해준	P1-pl.003	임성빈	G12.05
이영욱	P1-nu.020	이종봉	P1-bp.033	이헌수	P2-se.004, P2-se.003	임승영	P1-se.017, P1-se.024
이영욱	C15.01	이종영	F6.04	이현기	B1.01	임승혁	P1-se.003
이영진	P1-ap.407, P2-ap.201	이종원	P1-se.009	이현기	B1.02, P2-pa.303	임신혁	P1-at.002
이영훈	G9.04	이종원	C2.04, C4.02	이현기	P2-pa.305, B1.03, P2-pa.307, P2-pa.309, P2-pa.310, P2-pa.311, P2-pa.313	임영빈	P1-bp.013
이용창	B1.01	이종하	P2-pl.308			임영훈	P1-co.305, P1-co.304
이용창	B1.02, P2-pa.303	이종훈	P2-op.024			임은주	B12.04
이용창	P2-pa.305, B1.03, P2-pa.307, P2-pa.309, P2-pa.310, P2-pa.311, P2-pa.313	이종훈	P1-nu.014	이현명	G11.01	임이량	C12.03
이용훈	C4.04	이주련	D2.07	이현영	P1-pl.004	임인택	B1.01
이용훈	F14.01	이주연	F2.07	이현우	F8.04	임인택	B1.02, P2-pa.303
이우진	G6.07	이주영	P2-pa.304, A1.04	이현우	P2-pl.313	임인택	P2-pa.305, B1.03, P2-pa.307, P2-pa.310, P2-pa.311, P2-pa.309
이우창	P2-pl.329	이주혁	P2-op.017	이현재	E8.04	임재홍	P2-pl.202
이원욱	P1-pl.038, P1-pl.039, P1-pl.041	이준빈	D6.04	이현정	G8.02	임재훈	H2.04
이원종	H2.04, H2.02	이준행	F1.02	이형규	P1-pl.027	임정섭	P2-op.024
이윤아	P2-pl.207	이준혁	P1-co.306	이형목	C3.01	임종환	P2-ap.306
이윤태	P2-ap.113	이준호	P1-co.406	이형민	P1-pl.023	임주현	P1-se.014
		이준희	E13.06	이형원	C3.03	임태원	B13.04
			E8.04, H6.03, B8.03, F13.02	이형준	H9.07	임형산	P2-pa.125
		이지승	H6.07	이형탁	P1-ap.411		

임호준	P1-co.411	전승우	P1-at.008	정승호	P2-pl.502, P2-pl.326	조삼연	P1-ap.403
임흥헌	H7.04	전시현	F1.01	정영균	C4.04, P2-pa.123	조성오	P2-ap.123, P2-pa.125,
	<b>ㅈ</b>	전영무	P2-pl.308, P2-pl.327	정영규	P2-pl.204		P2-op.017, P2-ap.125,
장기주	F13.05	전인준	P1-se.016, P1-se.015,	정영욱	D11.01		P2-se.028
장대식	P2-pl.205		P1-se.014	정용찬	C8.08	조세례요한	P2-op.020
장대식	P2-pl.113	전재형	E2.03	정우열	P2-op.024	조소연	G4.06
장두희	P2-pl.502, P2-pl.326	전준우	P2-pl.329	정우일	P1-se.018	조소연	P1-nu.023
장문규	H6.07	전지훈	G12.06	정운기	P2-te.008	조승연	P1-nu.006
장민석	F10.01	전진아	P2-pa.318, P1-se.024	정운룡	D6.04	조신욱	D12.04
장서형	E12.01	전천하	H10.04	정운오	P1-ap.401, P1-ap.402	조영욱	P1-at.008, C5.01
장세덕	C4.04	전태민	P1-pl.012	정원	P1-co.403	조영현	P1-pl.003
장세덕	P2-pa.123	전태수	A2.01	정유철	D11.05	조영훈	P1-co.410, G8.04
장승우	P2-co.201	전한솔	P1-se.027	정의현	P2-se.025, P2-se.023,	조용석	B2.03
장연식	B12.05	전현수	P1-se.016, P1-se.015,		P2-se.024	조용섭	P2-pa.101, P2-pl.101,
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장재영	P1-pl.004	정건우	P1-se.017, P1-se.024	정재황	D14.06		P1-ap.413
장주혁	P1-pl.012, P1-pl.013	정경수	P1-pl.023	정지훈	H10.05, P2-op.020	조용섭	B15.02
장지승	B1.01	정경재	P2-pl.207	정진석	P1-co.301	조용우	D11.05
장지승	B1.02, P2-pa.303	정국채	P1-co.512, P2-co.106	정진오	G9.04	조용훈	P1-se.003
장지승	P2-pa.305, B1.03,	정기상	A4.02	정진우	D12.06	조우람	P2-as.001
	P2-pa.307, P2-pa.309,	정기형	P1-se.027	정진욱	P1-pl.014	조원상	(CHO, Won Sang) T2.01
	P2-pa.311, P2-pa.310	정다운	B1.01	정진일	P2-pl.308	조원혁	A13.05
장지현	F13.02	정다운	B1.02, P2-pa.303	정진현	A11.01	조윌럼	D12.04, P2-se.022
장지호	P2-pl.118	정다운	B1.03, P2-pa.307	정진호	P2-ap.115	조재영	P1-nu.012
장차운	G9.07		P2-pa.305, P2-pa.310,	정치현	P2-op.024	조정민	P2-pl.327
장찬욱	P2-se.016, P2-se.013		P2-pa.311, P2-pa.309	정태성	C4.04	조정효	B2.01
장택진	P1-nu.014	정란주	E5.02	정태영	F5.02	조정효	C14.03
장한일	B1.01	정로형	P2-pl.309	정태현	G2.06	조정효	P1-st.015
장한일	B1.02, P2-pa.303	정명화	G8.03	정하영	P2-ap.313	조종갑	P2-pl.313, P1-pl.004
장한일	P2-pa.305, P2-pa.307,	정모세	P1-pl.043	정현학	B12.05	조준형	C8.05
	B1.03, P2-pa.309,	정문석	F6.07	정형채	P1-st.009	조창희	D12.06
	P2-pa.310, P2-pa.311	정문연	H11.03	정해리	D12.04, P2-se.022	조한얼	P2-pa.107, C2.01
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	G11.03, P2-pl.327	정미	A11.01	정환성	G10.01	조현석	A1.01
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전명환	E11.03	정석범	C9.03	정회천	P2-pl.119	조혜원	P1-bp.020
전상훈	B1.01	정성훈	P2-pl.204	정효민	G3.03	조화연	P1-nu.014
전상훈	B1.02, P2-pa.303	정수민	G2.05	정훈	G10.02	좌승엽	H2.02
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주정식  
주종현  
주태성  
지명국  
지승훈  
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차덕준  
차민령  
차수연  
차영진  
채승철  
채희승  
천명기  
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천학범  
최규리  
최기영  
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최다해  
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최병수  
최석호  
  
최선빈  
최선영  
최성국  
최성열  
최수용  
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최순철  
최승호  
최시영  
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CHUNG Woohyun	P2-pa.315	FURUNO T.	E4.01	HA Daehoon	A1.03		
COAK Matthew John	H9.03	Gabriel Souza Moreira	P2-te.011	HA Eunja	H4.01	HAN Songhee	P2-co.405
COOPER Valentino R.	E13.04	GAO Fang	B5.05	HA Gwanghee	P1-pl.047	HAN Suk Hee	P2-ap.206
D'ALÉO Anthony	D12.07	GELMI Andrea	F1.08	HA Kook Sun	P1-bp.008	HAN Woo Hyun	F13.03
DAHIYA Vinita	B6.03, P1-se.004	GHANBARINIAKI Amirhossein	C14.01	HA Kooksun	C14.08	HAN Yeong Deok	P2-pa.201
				HA Meesoon	P1-st.014	HAN Young-Geun	D12.05
DANG Jeongjeung	P2-pl.109	GHIM Young-chul	G11.02	HA Min Young	B2.02	HAN Young-Kyu	E13.07
DANIEL D Joseph	P1-ap.309	GHIM Young-chul	P1-pl.015,	HA Seungkyu	P2-pa.120,	HAN Young Geun	G10.05



JANG Soohyun	P1-bp.003	JEON Tae-Yeol	P2-co.213	JEONG Seuri	H7.06	JO Jonggab	P1-pl.009
JANG Sukjae	P1-ap.103	JEON Y.-M.	A11.03	JEONG Soomin	G3.01	JO Moon-Ho	E10.02
JANG Taek jin	P1-nu.013	JEON Yongmoon	P1-bp.011	JEONG Su-Hun	A6.01	JO Namgyeong	P1-ap.202
JANG Won-Jun	H8.07	JEON Young Hoon	A13.04	JEONG Sukmin	C8.01	JO Sujin	C12.02
JANG Wonjun	P2-pa.315	JEON Youngmu	P2-pl.312	JEONG Sumin	F1.07	JO William	C12.04,
JANG Woojin	P2-pa.110,	JEONG Dong-Hyuk	P1-pl.050	JEONG Sumin	P2-pa.103		P2-co.413
	E1.06	JEONG Dong Hyeok	P1-nu.019	JEONG Sun Chan	C4.03	JO William	G7.05,
JANG Yeongmin	P2-pa.105	JEONG Dongjun	P2-pa.118,	JEONG T.	D5.01		C12.06,
JANG Yong-Chull	H2.05		P2-pa.119	JEONG Woojin	P1-pl.022		P2-se.026,
JANG You-Na	E2.04	JEONG Hawoong	P1-st.006,	JHANG Genie	C15.02		C12.05,
JANG Yunsu	P1-bp.015		P1-st.014	JHANG H.	P2-pl.306,		C12.01,
JE Sang-Yun	P1-pl.028	JEONG Hoon Yeub	D12.01		P2-pl.320		B12.07,
JEEN Gwang-Soo	H7.05	JEONG Hu Young	H12.04,	JHANG Hogun	P2-pl.307,		P2-se.021,
JEEN Hyoungjeen	G8.06, H7.05		P1-ap.306		P2-pl.325		C6.01
JEEN Hyoungjeen	P1-co.511,	JEONG Jae-Hun	P2-se.007	JHI Seung-Hoon	F7.03	JO Yongseok	P1-bp.012
	P2-co.213	JEONG Jae Hwan	P2-se.018,	JHO Hunkoog	P2-te.005	JO Youngjung	P2-co.216
	C12.05		P2-se.009	JHO Hyeok Jin	C14.05	JO Youngmin	D4.08
JEON Chan-Wook	E1.08	JEONG Jae Won	C4.03	JHO Yong Seok	B2.02	JO Youngmin	P2-pa.103,
JEON Dajeong	D11.03	JEONG Jaehong	G9.08, G9.05	JI Hyunjin	C12.07,		F1.07
JEON Dong-O	D2.08	JEONG Jaeki	A6.02		P2-co.405	John L. Almond	F1.01
JEON Euijin	P2-pa.312,	JEONG Jin-Young	H11.06	JI Hyunjin	H6.08	John Leslie Almond	E1.02
JEON Eunju	P2-pa.319,	JEONG Jinwon	P2-co.207	JI Sungdae	F9.02	John Leslie Almond	F1.05
	P1-nu.003	JEONG Jong-Ryul	H12.06	JIA T.	F9.04	JOHNER Albert	P1-st.002
JEON Eunju	P2-pa.320	JEONG Junghyun	P1-ap.315	JIANG Huaide	P1-ap.201	JOHNSTON Steven	H8.07
JEON Gun Sang	P2-co.108	JEONG Junghyun	P2-ap.202,	JIN HOSUB	F13.08	Jon Bailey	H2.04, H2.02
JEON H.B.	G3.02		P1-ap.312,	JIN Hye-Jin	G7.05,	JOO Beom Soo	P2-co.409
JEON H.G.	P2-pa.322		P1-ap.313,		C12.06,	JOO Jinsoo	P2-se.029
JEON Hyeon Woo	C8.09		P1-co.302,		C12.01	JOO Jong-Hyeon	C14.04
JEON Hyeongwon	H11.02		P1-ap.314,	JIN Hyo-Sun	P1-co.507	JOO Jongdae	E11.01
JEON HyoungKu	P2-pa.124		P1-ap.417	JIN Hyunchang	P2-pl.203	JOO Kyungkwang	P2-pa.105
JEON J.W.	A11.03	JEONG Junho	P1-at.003	JIN Hyung-ha	P1-pl.021	JOO Min-kyu	B8.07
JEON Jae-Hyung	P1-bp.029	JEONG Junkyeong	B12.03	JIN Hyung Gon	P1-pl.053	JOO Min-Kyu	C12.07
JEON Jaehyung	P1-bp.032	JEONG Junu	P2-pa.308,	JIN Mi Sun	C14.05	JOO Min-Kyu	H6.08, B10.01
JEON Ji Hoon	H12.02		P2-pa.316	JIN Munsu	P1-pl.030	JOO Sanghyun	P2-co.209,
JEON Jin-A	A1.08	JEONG Kwang-Sik	G6.04	JO Byeong Cheol	P1-bp.026		P2-co.302
JEON Jongcheol	P1-bp.016	JEONG M. S.	P2-se.027	JO Hang-Hyun	A2.02	JOO Sungmin	P1-bp.032
JEON S.H.	P2-pa.322	JEONG Min Yong	P2-co.202	JO Hang Hyun	A2.04	JOUNG Mi Joung	C4.03
JEON Saegye	P2-co.302	JEONG Minjoong	G3.06	JO Hanlae	D5.06	JOUNG Mi	P2-pl.312
JEON Sanghoon	P2-pa.128	JEONG Munseok	F6.06	JO Hyun Chul	E11.04	JUN Byeongeog	P1-ap.416
JEON Sekye	P2-co.209	JEONG S. H.	P2-pl.105	JO Hyunjun	F6.06	JUN Young Chul	D12.01
JEON Seongjin	P1-pl.030	JEONG S.C.	C4.09	JO Hyunsuk	P2-pa.111	JUN Yuson	A4.08
JEON Si Hyun	P2-pa.106	JEONG Seung Gyo	P1-co.315	JO Ji Young	P2-ap.107,	JUNG Beonsung	P2-ap.202,
JEON Sung-Min	P2-co.309	JEONG Seunggho	P1-pl.009		P1-ap.414,		P1-co.302
JEON Sungmin	P2-co.307	JEONG Seunggho	P2-pl.318		P2-ap.120	JUNG Bongki	P1-pl.009

JUNG Bongki	P2-pl.318	JUNG Yeonjoon	P2-se.011,	KANG Ki Hoon	G8.08	KIM Bobae	P2-pa.120
JUNG Chang Uk	G12.02		P2-se.009	KANG Kyeong Tae	H7.03	KIM Bog.G	P1-co.208
JUNG Changhyun	P1-at.003	JUNG Yoochul	E11.05	KANG Kyeong Tae	P1-co.211	KIM Bongju	H8.06, C9.01,
JUNG Chulho	P1-co.405	JUNG Young-Dae	P1-pl.017	KANG Manil	G12.07,		P2-co.203
JUNG Chulho	P1-co.407	JUNG, JongHoon	E7.01		P2-ap.307	KIM Bongsoo	A9.01
JUNG Chulho	P1-co.408	KAANG Bong-Kiun	P1-bp.001	KANG Min Su	P1-bp.003	KIM Bum-Kyu	A9.01
JUNG Chulwoo	H2.02	KAHNG Byungnam	F2.01	KANG Minho	D4.08	KIM Bumjoon	D9.01
JUNG Daeho	P1-se.023	KAHNG Se-Jong	C8.04	KANG Minho	P2-pa.103,	KIM Bumseop	P1-co.206
JUNG Eilho	P2-co.305	KAJINO T.	E4.02, H1.03		F1.07	KIM ByeongCheol	P2-ap.307
JUNG Gwanyong	P1-pl.017	KALININ Sergei V.	G7.01	KANG S.K.	P2-pa.322	KIM C.	C8.09
JUNG Hoechun	E11.01	KANADA-EN'YO Y.	E4.01	KANG Seung su	P2-co.405	KIM C.	E9.02
JUNG Hye Ri	C6.01	KANDA Hiroyuki	D6.05	KANG Seunghoon	H7.03	KIM C.	P2-co.203
JUNG Hye Ri	P2-se.021	KANG B.-H.	C4.09	KANG Sinchul	G3.02	KIM Chae Un	P1-ap.302
JUNG Ilhyo	A14.02	KANG Boyoun	G9.02	KANG So Hee	P1-ap.408	KIM Chang-Seop	P2-co.403
JUNG Jeahyung	P2-pl.402	KANG Byoung Hwi	C4.03	KANG Sojung	P2-se.010	KIM Changyoung	E8.01,
JUNG Jeil	A8.04	KANG Byungjun	P1-pl.036	KANG Soonmin	G9.08		P2-co.301
JUNG Jeil	B10.07	KANG Changwon	P1-bp.008,	KANG Sooseok	P1-se.008	KIM Changyoung	F8.01, C9.01,
JUNG Jinjoo	P2-co.416		C14.08	KANG Sooseok	P2-co.101		E8.05
JUNG JinOh	H8.04	KANG Chanshin	P2-pa.308,	KANG Won Nam	P2-co.412	KIM Changyoung	H8.05
JUNG Jinyong	P2-co.403		P2-pa.316	KANG Woongu	P2-pa.312	KIM Chanhee	A9.03
JUNG Jong Hoon	P2-co.208	KANG Daejoon	P1-ap.316,	KANG WoonGu	P2-pa.320	KIM Cheol-Joo	E10.03
JUNG Jong Hoon	P2-co.403		P1-ap.317,	KANG Wooyoung	D14.07	KIM CheolHun	P2-pa.108
JUNG Jong Hoon	P2-co.413		P2-ap.126	KANG Wooyoung	P1-bp.001,	KIM Cheolhun	P2-pa.109
JUNG Jonghoon	F12.05,	KANG Dayoung	P2-pa.118,		P1-bp.008,	KIM Chul-Hoon	H12.06
	P1-co.317		P2-pa.119		C14.08	KIM Chulmin	H11.05
JUNG Keun Ahn	D11.06	KANG Gungwon	C3.02, G3.06	KANG Yechan	P2-pa.121	KIM Chunglee	D3.02, D3.03
JUNG Kijung	A11.02	KANG Gungwon	D3.02, D3.04,	KANG Yeong-Rok	P1-nu.016	KIM Chunglee	D3.04, D3.01
JUNG Laurent	P2-pl.304		D3.03, D3.01	KANG Yeong-Rok	P1-nu.019	KIM Chunglee	G3.06
JUNG Minkyung	D8.05	KANG Gyeongbo	P2-pl.401	KANG Yong-Ju	E13.07	KIM D. E.	P2-pl.105
JUNG Minkyung	P2-op.023	KANG H. S.	P2-pl.105	KANG Yoo-Jin	H2.07	KIM D. J.	H7.08
JUNG Moon-jung	P2-co.415	KANG Haeyong	P1-ap.405	KANG Yu-Seon	G6.04	KIM Dae-Yun	P1-co.502
JUNG Moonyoung	P2-ap.105	KANG Hang-Kyu	G6.04	KARIMI Fariba	A2.04	KIM Dae-Yun	P2-ap.207
JUNG Myung-Chul	F13.04	KANG Hang Kyu	P2-co.101	KARKI Sujita	P1-nu.005	KIM Dae Hwan	H12.01
JUNG Nam	P1-st.001	KANG Hee Seong	P2-se.007	KATO S.	C4.09	KIM Dae Hwan	H12.02
JUNG Namsik	P2-co.409	KANG Hyun Chol	P2-ap.118	KAVTANYUK Vladimir	P1-nu.011	KIM Dae Hyun	C8.02
JUNG Shin	P1-bp.030	KANG Jeong-yoon	C12.05	KAWABATA Takahiro	E4.01	KIM Dae Hyun	P2-co.411
JUNG Sung Chul	E13.07	KANG Jisung	P2-pl.314	KAWASAKI Ryosuke	P1-bp.020	KIM Dae Yeon	P1-nu.008,
JUNG Sunghoon	D1.03	KANG Joongoo	G13.02	KAWG M.S.	C4.09		P1-nu.009
JUNG Suyong	D8.01	KANG Joongoo	G6.06,	Kei Kondo	P1-se.027	KIM Dae Yun	P1-nu.015
JUNG Woo-Sung	P1-st.004		P1-co.202	KHAN Arshad	C4.06	KIM Daehyung	P1-bp.014
JUNG Woobeen	P2-co.301	KANG Juhwan	A12.05	KHAN Imran	B8.02	KIM Daeil	P2-pl.109
JUNG Woobin	E9.02	KANG K. K.	B11.03	KHAN Imran	B8.04	KIM Do-Hyun	F2.01
JUNG Wooll	P1-se.026	KANG Keehoon	B12.01	KIM Beom Jun	A2.08	KIM Do Gyun	E11.04
JUNG Y. G.	P2-pl.105	KANG Keekon	P1-pl.029	KIM Beom Seo	E9.02	KIM Dohun	E10.02

KIM DoHwan	P2-co.404	KIM Gowoon	P2-pa.320	KIM Hongjoo	G3.02		P2-pl.320
KIM Dohyung	P2-co.416	KIM Guinyun	C15.05,	KIM Hongjoo	P1-nu.003	KIM J.-Y.	P2-co.403
KIM Dong-Hee	B2.04		C15.04,	KIM Hongjoo	P1-nu.005	KIM J. H.	P2-co.215
KIM Dong-Hoon	E3.03		P1-nu.016	KIM Hongsu	E3.03	KIM J.	P2-pl.328
KIM Dong-Hyun	H12.06	KIM Guinyun	P1-nu.019	KIM Howon	C8.04	KIM J. S.	B6.01
KIM Dong-Ok	B13.05	KIM Gunn	F13.01	KIM Husung	P1-co.203	KIM J.H.	A11.03
KIM Dong Eon	H11.08	KIM Gunn	G13.04	KIM Hyang Kyun	C8.09	KIM J.Y.	P2-pa.322
KIM Dong Eon	H12.06	KIM GWANG-HEE	B10.08	KIM Hyegyeong	H7.05	KIM Jae-Sung	B13.05
KIM Dong Eon	P1-at.001	KIM Gwanwoo	G13.04	KIM Hyelim	A1.08	KIM Jae-Sung	C12.02
KIM Dong Jun	P1-pl.053	KIM Gyeong Tae	P1-bp.003	KIM Hyeong-Do	P2-co.207	KIM Jae-Young	C8.09
KIM Dong Min	B11.04	KIM Gyuhyeong	E13.03	KIM Hyojin	P1-nu.019	KIM Jae Hoon	P2-se.007
KIM Donghoon	P1-co.308	KIM H.-S.	A11.03	KIM Hyosub	D5.05, B5.05	KIM Jae Sung	P2-pa.106
KIM Donghun	P1-co.302	KIM H.	D5.01	KIM Hyosub	P1-at.007,	KIM Jaehoon	P1-bp.016
KIM Donghun	P2-ap.202	KIM H. J.	D4.01, C4.06		P1-at.005	KIM Jaejoon	P2-co.209,
KIM Dongjin	P1-ap.416	KIM H. J.	P1-nu.009,	KIM Hyongsu	G6.04		P2-co.302
KIM Dongkyum	P1-st.006		P1-nu.008	KIM Hyun-Chul	A4.03	KIM Jaekwon	P2-te.006
KIM Dongmin	P2-op.022	KIM H. S.	B11.04,	KIM Hyun-Chul	A4.08, A4.07	KIM Jaesung	E1.07
KIM Donguk	P2-pl.505		P1-pl.018	KIM Hyun-Chul	C15.06	KIM Jaeup	E2.01
KIM Doocheol	P2-op.010	KIM Haeri	P1-co.508	KIM Hyun	H6.08,	KIM Jaewoong	P1-co.317
KIM Dorim	P1-ap.312,	KIM Hajin	P1-ap.416		B10.01,	KIM Jaeyong	B11.04,
	P1-ap.417	KIM Hajin	P1-bp.018		B8.07		C13.01,
KIM Doseok	E12.02,	KIM Hajin	P2-pl.310	KIM Hyun	P1-nu.019		P1-pl.020
	C14.07	KIM Hak Beom	A6.02	KIM Hyun	P2-ap.114,	KIM Jaisoon	C10.06
KIM Doyeon	P1-bp.002	KIM Hakbeom	H7.09		P2-ap.115,	KIM Jang Youl	C4.03
KIM Doyeong	P2-co.411	KIM Hakseong	G12.03		P2-ap.116	KIM Jangho	H2.03
KIM Duckyoung	C13.03	KIM Han Joon	E7.04	KIM Hyung-jun	P2-ap.206	KIM Jangwon	P2-se.007
KIM E.J.	P2-pa.322	KIM Hanchul	G13.06	KIM Hyung gyu	P1-nu.003	KIM Jayeong	C12.05,
KIM Eun Kyu	H6.01,	KIM Hangyel	P2-se.010	KIM Hyungjun	C7.04		P2-se.026
	P1-se.025	KIM Hansung	P2-pl.109	KIM Hyungkook	C6.03	KIM Jayhyun	G11.05
KIM Eun Kyu	P2-se.005	KIM Hee Su	F6.03	KIM Hyunjae	F2.03	KIM Je-Hyun	E10.02
KIM Eun Kyu	P2-se.015,	KIM Hee Yeon	P2-co.108	KIM Hyunnam	P2-op.018	KIM Je-hyung	F5.05
	G6.03	KIM Heejin	P1-ap.417	KIM Hyunseok	P2-pl.314	KIM Je-Hyung	P2-co.101
KIM Eunjoo	D4.03, D4.02	KIM Heejin	P1-co.302	KIM Hyunsoo	F12.05	KIM Jeehyun	P1-pl.047
KIM Eunky	P1-se.029	KIM Heejung	E13.02	KIM Hyunsoo	P2-pa.319,	KIM Jeong Rae	P1-ap.419
KIM Eunyoung	P1-co.310	KIM Heereyoung	C4.01		P1-nu.003	KIM Jeongsoo	P2-pl.505
KIM Gee Yeong	C6.01	KIM Heesu	F5.08	KIM Hyunyoung	G13.02	KIM Jeongyong	P2-se.029
KIM Geon	D14.04	KIM Heon-Jung	E6.03	KIM Hyunyoung	P1-co.202	KIM Ji-Wan	B10.09
KIM Geonhwa	P2-co.415	KIM Heon-Jung	G9.02	KIM Ill Won	H7.07	KIM Ji Yeon	P2-co.405
KIM GEUN-HYEONG	P1-ap.406	KIM Heung-Su	P2-pl.319	KIM Ill Won	P1-co.307	KIM Jiho	P2-ap.204
KIM Gi-Yeop	H7.06	KIM Hobeom	A6.01	KIM In Yea	P1-nu.015	KIM Jiho	P2-ap.205
KIM Gon-Ho	P2-pl.317	KIM Hoil	E10.02	KIM Inwook	A1.02	KIM Jihun	P1-se.019
KIM Gowoon	H7.05	KIM Hong-Seok	A9.01	KIM Inwook	A1.08	KIM Jihwan	A9.01
KIM Gowoon	P1-co.511	KIM Hong Joo	P1-ap.309	KIM Isae	P2-ap.307	KIM Jihwan	B10.02
KIM Gowoon	P2-pa.312	KIM hongjoo	A1.03	KIM J.-H.	P2-pl.306,	KIM Jihwan	B10.03



KIM Jihyun	P2-pa.118, P2-pa.119	KIM Junghee	P2-pl.306	KIM Kwanpyo	H12.04, P1-ap.306	KIM Mu-Yong	P2-co.309
KIM JIN	H8.01	KIM Junghee	P2-pl.314	KIM Kwanpyo	P1-ap.302	KIM Myeongjin	P1-ap.412
KIM Jin Soo	P1-co.316	KIM Jungho	P1-ap.417	KIM Kyeongryun	P1-pl.024	KIM Myongjin	G11.08
KIM Jin Young	A12.06	KIM Junghwan	P1-ap.313, P1-ap.314,	KIM Kyeoungghak	A7.03	KIM Myungjong	F6.03
KIM Jin Young	A6.02		P1-ap.417,	KIM Kyoo	E13.02	KIM Myungjong	F5.08
KIM Jingul	F7.03		P1-ap.315,	KIM Kyoo	F5.04	KIM Na-Young	C8.04
KIM Jinhee	P2-co.414		P1-ap.312	KIM Kyoo	P2-co.211	KIM Nakwoo	P2-pa.202
KIM JINJU	P2-pl.110	KIM Junho	E1.02	KIM Kyoung Jin	B12.06	KIM Nam-Dong	P2-ap.304
KIM Jinkwon	H8.06	KIM Junho	E1.03	KIM Kyoungdae	P2-op.011	KIM Nam-Hui	P1-co.502
KIM Jinsu	P2-pa.315	KIM JunHo	P2-ap.309, P2-ap.311	KIM Kyung Taec	B5.03	KIM Nam-Kyun	P2-pl.317
KIM Jiwoong	P1-co.315, P1-ap.409	KIM Junhyung	P1-co.409	KIM Kyung Taec	P2-op.001, A5.01	KIM Nam young	P1-nu.003
KIM Jong-Ho	D2.02	KIM Juran	P2-se.026, C12.05,	KIM Kyung Teac	P2-op.006	KIM Namkyu	B13.03
KIM Jong Hun	F5.07		P2-se.021	KIM Kyungil	H4.03	KIM Pansu	P2-ap.106
KIM Jong Su	B6.03, P1-se.005, P1-se.004	KIM Juyeong	P1-co.208	KIM Kyungseung	P2-op.001, P2-op.006	KIM Pilkwang	P2-ap.112
KIM Jong Su	P1-se.002	KIM K. S.	C15.03	KIM kyungtae	B5.05	KIM S. S.	P2-pl.325
KIM Jong Woo	A13.01	KIM Kangwon	P1-ap.306, P2-ap.109,	KIM Kyungtae	D5.05	KIM S.B.	P2-pa.322
KIM Jonghwan	F10.02, A10.03		P2-ap.112	KIM KyungTaec	H10.06	KIM S.K.	A11.03
KIM Jonghyuk	P2-co.217	KIM Kangwon	P2-ap.101	KIM M.-H.	H7.08	KIM S.Y.	P2-pa.322
KIM Jongock	P1-se.007, P2-ap.122	KIM Kangwon	P2-ap.103, E12.04	KIM M. K.	C8.09	KIM Sang-Ho	C15.06
KIM Jongsu	F6.06	KIM Kee Hoon	A9.03	KIM Man-Ho	C13.02	KIM Sang-Ho	F4.02
KIM Joo-Sung	P1-co.502	KIM Keon-hee	C11.02	KIM Min-Jeong	C8.07	KIM Sang-Woo	B7.03
KIM Joon Hyun	H9.02	KIM Keum Do	E7.04	KIM Min Seak	P1-se.005	KIM Sang-Yoon	E2.06
KIM Joonggyu	B10.01	KIM Keun Su	E6.04	KIM Mingu	P2-ap.204	KIM Sanghui	P1-co.202
KIM Juhyung	P2-pl.325	KIM Keun Su	P2-co.303	KIM Mingu	P2-ap.205	KIM Sanghwa	B8.05
KIM Jun-Young	P2-pl.314	KIM Keunui	P2-ap.102	KIM Minho	G4.04	KIM Sangkyeun	P2-pl.315
KIM Jun Oh	B6.03, P1-se.004	KIM Ki-Chul	P1-ap.307	KIM Minhyuk	P2-pl.319	KIM Sangmo	P2-co.208
KIM Jun Oh	P1-se.002	KIM KI-HONG	P1-ap.406	KIM Minjin	B5.05	KIM Sangsoo	F7.06
KIM Jun Sung	C8.03, E10.02	KIM Ki-Seok	H9.08		B10.03, B10.02	KIM Sangwoo	G3.01
KIM Jun Sung	F9.02, H8.07	KIM Ki-Yeon	P2-co.403	KIM Minju	P2-pl.401	KIM Se Kwon	C9.03
KIM June-Seo	P2-co.403	KIM Ki Won	P2-ap.302	KIM Minju	P2-pl.402	KIM Sejoong	E13.01
KIM June-Young	A4.07	KIM Kibum	A2.08	KIM Minkwan	P1-se.030	KIM Seok	A3.05
KIM June Young	P1-pl.045, P1-pl.046	KIM Kihwan	P2-ap.309	KIM MINSEOK	P2-pl.110	KIM SEONG-Jun	D11.06
KIM Jung Hwa	P2-ap.110	KIM Kimin	P2-pl.306	KIM Minseong	F2.03	KIM Seong Bong	H11.02, G11.07
KIM Jungdae	B8.05, G13.05	KIM Kipom	E2.04	KIM Minu	G7.01	KIM Seonghan	G11.08
		KIM Kun Joong	P1-co.309	KIM Minwon	P1-se.019	KIM Seongheun	C8.03
		KIM Kwang-Eun	H7.06	KIM Minwoo	P1-pl.001	KIM Seonghyun	H4.01
		KIM Kwangsoo	C15.05, C15.04, P1-nu.016	KIM Minwoo	P2-op.003	KIM SeongYeon	P2-ap.309, P2-ap.311
				KIM Miyoung	G13.06	KIM Seontae	H11.06
				KIM Miyoung	P1-ap.419	KIM Seoungcheol	P1-pl.046
				KIM Mu-yong	P2-co.307	KIM Seulgi	P2-pa.118, P2-pa.119
						KIM Seung-Yeon	P1-st.018,



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KIM Seung Geun	P2-ap.124	KIM Tae Hee	P2-co.410, G8.08	KIM Yeon Soo	H12.03	KIM Youngwook	B10.07
KIM Seunghyun	P2-op.011			KIM Yeong Kwan	B9.02	KIM Yu Jin	E7.04
KIM Seungnam	G11.08	KIM Tae Heon	G8.09, P1-co.501	KIM Yeong Kwan	T1.01	KIM Yunha	P1-st.002
KIM Sewoong	A14.01			KIM Yeongduk	P1-nu.003	KIM Yunseok	H7.03
KIM Seyong	H2.01	KIM Tae Heon	H7.07, P1-ap.419	KIM Yeongduk	P2-pa.312	KIMURA Shin-ichi	H8.09
KIM Shin Ik	C8.09			KIM Yeongduk	P2-pa.320	Kiran-Shinde	P1-co.512
KIM Siyong	P1-bp.001	KIM Tae Heon	H8.06	KIM Yeongho	P1-se.005	KIRK Jaewon	P1-bp.007
KIM So Yeun	A8.05	KIM Tae Heon	P2-co.208	KIM Yeonghoon	P1-bp.029	KO Bumsuk	H9.01
KIM Sokwon	G12.07, P2-ap.307	KIM Tae jeong	E1.04	KIM Yeongkwan	E9.02	KO Byeonghak	E1.09
		KIM Tae Jeong	F1.04	KIM Yong-Hyun	C8.04	KO Byungsoo	P1-se.005
KIM Soo-Jeong	P1-st.016	KIM Tae Soo	B10.04	KIM Yong-Hyun	G13.03	KO In Soo	H11.08
KIM Soo Hyeon	P2-ap.120	KIM Tae Yeon	P2-ap.107, P2-ap.120	KIM Yong-Sang	B12.06	KO Kyung-Tea	P2-co.211
KIM Soohyo	P2-op.011			KIM Yong Hamb	A1.02	KO W.H.	A11.03
KIM Sora	A1.08	KIM Tae Yun	P2-ap.112	KIM Yong Hamb	P1-nu.003	KO Won-Ha	P2-pl.314
KIM Su-Hee	P2-ap.314	KIM Taehoon	G13.05	KIM Yong Soo	P1-ap.208, F5.03	KO Wonbae	P1-se.026
KIM Suhan	P2-pl.507	KIM Taehun	G9.08, P1-co.510		P1-ap.306	KO WonHa	P1-pl.008
KIM Suk-Kwon	P1-pl.053			KIM Yong Soo	D2.08	KO Youngjoon	F12.05
KIM Sukkwon	P2-pl.501	KIM Taehyun	P1-at.003	KIM Yong Woon	P2-co.403	KOCHELEV Nikolai	P1-nu.001
KIM Sun-Phil	F5.06	KIM Taehyung	P1-co.203	KIM Yonghak	P1-co.203	KOH Hye Ran	C14.01
KIM Sun Il	P2-op.005	KIM Taejeong	F1.07	KIM Yonghoon	P2-co.403	KOH Yoobin E.	P2-co.415
KIM Sun Kee	C2.05	KIM Taejung	P2-pa.103	KIM Yonghwan	D4.02	KOHIYAMA Asaka	C6.04
KIM Sung-Hoon	H12.01	KIM Taek Jung	G13.07	KIM Yongjin	P1-pl.019, P2-se.027	KONDOH Hiroshi	P2-co.415
KIM Sung-Jin	G9.02	KIM Taekjung	P1-co.201	KIM Yongmin	P1-co.409	KONG Heejung	P2-co.416
KIM Sung-Won	E3.02	KIM Taekyu	P2-te.004, P2-te.003		P1-ap.419	KONG Hyeonjun	G8.06, H7.05
KIM Sung Baek	P2-co.207			KIM Yoonhee	G11.05	KONG Hyeonjun	P1-co.511
KIM Sung Hun	P1-se.011	KIM Taeshin	P2-op.007	KIM Yoonkoo	A6.01	KOO Hyun Cheol	P2-ap.206
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KIM Sung hyun	P1-nu.003	KIM Taeyoon	H6.06, H6.02	KIM Young-Kyoung	A2.06	KOO Tae-Yeong	F11.02
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KIM Sung	P2-pl.317	KIM W.-J.	H7.08	KIM Young Jin	P2-pa.319	KOO Taeyeong	G11.08
KIM Sung Wng	P2-co.412	KIM W.Y.	P2-pa.322	KIM Youngduk	C8.09	KOREEDA Akitoshi	P1-co.101
KIM Sungguk	P2-pl.312	KIM Whansun	D3.02, D3.04, D3.03, D3.01	KIM Younghak	A1.08	KOSHIKAWA A.	E4.01
KIM Sunghun	C4.06			KIM Younghamb	P2-op.004	KOSHINO Mikito	B10.07
KIM Sunghwan	P1-ap.101	KIM Whansun	G3.06	KIM Youngjae	D4.03	KOUWN Seyen	E3.06
KIM Sunghwan	P2-pa.108	KIM Won Seok	P2-co.405	KIM Youngjin	B10.06	KOYANO Mikio	D6.01
KIM Sunho	P1-pl.009	KIM Wondong	H12.03	KIM Youngkuk	E11.01	KRATOCHVILOVA Marie	H9.04
KIM Sunho	P2-pl.318	KIM Woo-Yeong	P2-ap.207	KIM Youngkwon	P2-co.307	KREMER R. K.	F9.02
KIM Sunji	D4.07	KIM Woo tae	P1-nu.003	KIM Youngkyong	H4.02	KRISHNA Sanjay	B6.03, P1-se.004
KIM Sunwoo	P2-co.206	KIM Wooyoung	P1-nu.011	KIM Youngman	H4.03		
KIM Tae-Hwan	F6.01	KIM Y. D.	P1-nu.009, P1-nu.008	KIM Youngman	P1-co.315	KSTAR Team	A11.01

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KUMANO Shunzo F4.01  
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KWAK Jonggu P2-pl.312  
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LEE Jason	P2-pa.129	LEE jonghwan	P1-nu.022	LEE Kyu Seung	B12.03	LEE Sang-hwa	P1-pl.020
LEE Jason Sang Hun	E1.06	LEE Jongjin	D14.07	LEE Kyudong	P2-pl.324	LEE Sang-Il	P2-pl.203
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LEE Sangyun	P1-co.211	LEE Tae Kwon	P2-co.208			LIU Dong	P1-bp.028
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LEE Seung Kyo	P2-se.005	LEE Won Chul	H12.04	LI Nannan	F5.04	LU Chih-Ting	G2.08
LEE Seung Min	G10.05	LEE Wonjun	H8.05	LI Shiyan	H9.04	LU D. H.	F9.04
LEE Seunghyun	P1-pl.024	LEE Wonwook	P1-pl.015	LI Xiaobing	P1-co.313	LUCINI Biagio	H2.06
LEE Seunghyun	P2-pl.109	LEE Woo Cheol	P1-pl.040	LI Yu-Feng	G1.02	LUGENDO Innocent Jimmy	
LEE Shinbuhm	H8.06	LEE woochang	P1-pl.001	LIANG Liangbo	P2-ap.110		D11.06
LEE Soon Gul	C5.02	LEE Woochang	P1-pl.035	LIM Gunhyoung	P1-bp.010	LUO Haosu	P1-co.313
LEE Soonchil	G9.08	LEE Woojun	B5.05	LIM Hojoon	P2-co.415	LV Yinchuan	F5.06
LEE Soongul	C5.07, C5.05	LEE Woojun	D5.05	LIM Hyung-Kyoo	C7.04	LY Trinh Thi	B8.05, G13.05
LEE Sooseok	B13.03	LEE Woojun	P1-at.007	LIM I.T.	P2-pa.322	M. Umar Farooq	B8.04, B8.02
LEE Su Houn	A4.04	LEE Wooseok	F2.03	LIM Jaehoon	F1.03	MARSILI Matteo	P1-st.015
LEE Su Houn	F4.04	LEE Y.-S.	D5.01	LIM Jaehoon	P2-pa.103, F1.07	MARUMOTO Kazuhiro	B12.01
LEE Su Yong	P2-ap.118	LEE Y.C.	P2-pa.322	LIM Jaehoon	B5.01, A14.03	MARUYAMA Takasumi	H1.01
LEE Suheon	H8.05	LEE Y.H.	A11.03	LIM Jaemin	H7.03	MASE Kazuhiko	P2-co.415
LEE Suk Joong	P2-se.029	LEE Yangjin	H12.04	LIM Jin Young	G7.06	MATEOS Xavier	H10.01
LEE Sun-Mi	P1-ap.202	LEE Yangjin	P1-ap.302	LIM JiSoo	G7.03	MATHEWS G.	E4.02
LEE Sun-Mi	P1-ap.203	LEE Yein	P1-ap.306	LIM Jongsun	P2-ap.117	Mathias Groth	P1-pl.010
LEE Sung-Han	F5.03	LEE Yeonghoon	P2-pa.202	LIM Junhwi	P1-se.007, P2-ap.122	Matlabjon Sattorov	H11.06
LEE Sung Su	P1-ap.414	LEE Yeonho	H8.07, H8.04	LIM Keeyoung	P1-bp.030	MATSUDA Yuji	E9.01
LEE SungBin	H8.07	LEE Yong-Ho	P1-co.513	LIM Sahoe	P2-ap.207	MATSUMOTO Daisuke	B12.01
LEE Sunghoon	A1.08	LEE Yong Ho	D3.01	LIM Sang-Ho	C12.07, P2-co.405	MAZIN I. I.	F9.02
LEE Sunghoon	E13.03		D3.02, D3.04, D3.03	LIM Seong Chu	H6.08	MESCHÉDE Dieter	B5.02
LEE Sunghwan	P1-pl.024	LEE Yong Joong	P2-ap.312	LIM Seong Chu	P2-ap.102	MICHEL Anny	G8.08
LEE Sungmin	A2.07	LEE Yong Min	P1-pl.028	LIM Soo Yeon	P2-ap.110, P2-ap.112	MIKHAILENKO Vladimir S.	P1-pl.003
LEE Sungmin	H12.01	LEE Youn Sil	D14.04	LIM Soo Yeon	G9.08	MIKHAILENKO Vladimir V.	P1-pl.003
LEE Sungmin	P1-bp.032	LEE Young Hee	H6.08, B10.04	LIM Sumin	E2.06	MIN B. I.	E13.02
LEE Sungmin	P2-ap.112, P1-co.508	LEE Young Hwan	E7.04	LIM Woochang	P1-pl.015	MIN Byoung-Chul	B13.05
LEE Sungwoo	P1-ap.302	LEE Young Won	P2-pa.201			MIN Kyung-Ah	P2-co.105,
LEE Suyoun	P1-co.311	LEE youngjun	P1-nu.022				
LEE suyoun	P1-nu.022	LEE YoungPak	P2-ap.302				
		LEE Yourack	P2-te.011				

MIN Kyung-Ah	P2-co.104 P2-se.001, P2-co.402	MORRIS James R.	E13.04	NAMKUNG W.	P2-pl.328	NOH S. J.	B11.04,
MIN Kyungtaek	P1-ap.101	MOTTER Adilson E.	D2.03	NAMKUNG Won	P1-pl.047		P1-pl.018,
MIN Sun-Hong	H11.06	MUHAMMAD Sheeraz	H7.07	NAMKUNG Won	P2-pl.115		P1-pl.019,
MIN Taewon	G13.05	MUKAI Kiyofumi	P1-pl.013	NAMKUNG Won	P2-pl.117		P1-pl.020
Minh Tan Man	P1-se.011	MUKHANOV Viatcheslav F.	E15.01	NAMKUNG Won	P2-pl.322	NOH Sung Jin	P1-nu.019
MIYADERA Tetsuhiko	D6.03	MULILO Benard	C4.05	NANAMURA T.	E4.01	NOH T. W.	G8.05
MIYAWAKI E.	E4.01	MUN Bongjin Simon	P2-co.415	NASRALLAH Iyad	B12.01	NOH Tae Won	H8.06, C9.01
MIZUTANI K.	E4.01	MUN Hyeona	P2-co.412	NGOC Huynh Van	P2-ap.126	NOH Tae Won	P1-ap.419
MOMENZADEH Ali	C5.01	MUN Je Hoi	A5.01	NGUYEN Anh Duc	F5.03	NOH Taewan	C5.02
MO Sung-Kwan	C8.07	MUN Jehoi	H10.06	NGUYEN Bich Phuong	B12.07, P2-se.021, C6.01	NOH Taewan	C5.07, C5.05
MOHAMED Ahmed Yousef	C8.02	MURASE Yohsuke	F2.02			NOH Taewon	G7.01
MOHAMMAD Noor-A-Alam	F8.02	MURATA Keizo	A9.03	NGUYEN Hien Thi Minh	G8.05	NOH Tawon	P2-co.204
MOHAMMAD NOOR A ALAM	E8.04	MURATA M.	E4.01			NOH Youngji	P2-ap.106
MOON Byoung Hee	H6.08	MURILLO Gonzalo	F12.05	NGUYEN Thi Hien	C15.04	NOJIRI H.	P2-se.027
MOON Byul	E4.04	MYONG Sua	C14.01	NGUYEN Thi Huong	P1-se.001	NORTON Ronald S.	G3.06
MOON Byungkee	P1-ap.313, P1-ap.315	MYOUNG Nojoon	D8.04	NGUYEN Thi Minh Hai	G13.05	ODA Takuji	P1-pl.048, P1-pl.049
MOON C.-B.	C4.09	NA DongHyeon	P1-pl.008	NGUYEN Thi Thanh Huong	P2-ap.110		P2-pl.105
MOON Chang-Bum	E4.04	NA Sangmi	P2-co.406			OH B. G.	P2-co.101
MOON Chang-Seong	E1.07	NA Woongki	P2-ap.103	NGUYEN Thi Thu Trang	B12.07	OH Byoung Yong †	P2-co.101
MOON Dongho	D4.03, D4.02	NA Yong-Su	A11.03	NGUYEN Tri Khoa	F5.03	OH Byung-Hun	F1.06
MOON Dongho	G4.08	NA Yong-Su	G11.05	NGUYEN Van Do	C15.04	OH Cha-Hwan	P1-pl.040
MOON E. G.	F9.02	NA Yong-su	P1-pl.007	NGUYEN Van Luan	B10.04	OH Cheoluk	P2-ap.307
MOON Eun-Gook	F6.02	NA Yong-Su	P1-pl.008	NGUYEN Van Quang	G8.08	OH D. G.	P2-co.214
MOON Geol	B5.02	NA Yongsu	P2-pl.315	NGUYEN Bich Phuong	D12.04, P2-se.022	OH D.G.	P2-co.212
MOON Geol	P1-at.007, P1-at.005	NAHM Ho-Hyun	G13.03			OH Dong-keun	P2-pl.304
MOON H. S.	D5.01	NAHMGONG June	A3.05	NGYUEN Trang Thi Thu	D12.04	OH Geonhee	P2-pl.304
MOON Hyeon-Min	C14.04	NAIK Haladhara	C15.05			OH Gyuji	G4.08
MOON Hyung Seok	P1-bp.019	NAKADA Toshitaka	P1-co.101	NIKKURA Megumi	E4.03	OH Gyuji	H6.01
MOON Hyungseok	P1-bp.017	NAM Chang Hee	H10.06	NIKOLKA Mark	B12.01		P1-se.029,
MOON J.Y.	C4.09	NAM Chang Hee	P2-op.001, P2-op.006, A5.01	NING H. L.	F9.04	OH In-Hwan	G6.03
MOON Jaeyoung	P2-co.217			NISHIKAWA Takashi	D2.03	OH In-Hwan	P1-co.316
MOON Joonoh	P1-pl.022	NAM Changhee	H11.05	NISHIMURA S.	E4.01	OH Jaejun	P2-co.403
MOON Kyungsun	P2-op.022	NAM Daewoong	P1-co.405, F7.06	NODA Y.	H9.05	OH JeongSeok	F12.03
MOON Pilkyung	B10.07	NAM Daewoong	P1-co.408	NOEJUNG Park	F13.08	OH Jinwoo	P1-se.026
MOON Soonjae	E9.03	NAM Jiyeon	G8.05	NOH Do Young	F7.03	OH John J.	C6.03
MOON Taehwan	E7.04	NAM Junseok	P2-pl.505	NOH Do Young	P1-co.409, P2-ap.118		D3.02, D3.04, D3.03, D3.01
MORIMOTO T.	E4.01	NAM Kungmin	D5.02			OH John J.	G3.06
		NAM Yong-Un	P2-pl.314	NOH Doyoung	P1-co.408	OH Jong-Seok	A11.02
		NAM Yongun	P1-pl.035	NOH Han-Jin	P2-co.207	OH Joosung	P1-co.510
		NAM Yoonbum	P1-pl.001	NOH Hyeonmi	P1-ap.314	OH Juhyun	P1-co.302
		NAM Yune-Seok	P1-co.502	NOH Jae dong	D2.05	OH Juhyun	P2-ap.202, P1-ap.417
				NOH Minji	E10.02		D14.05
				NOH Miru	P2-ap.117	OH Jungsic	D14.05
						OH Phillial	E3.06

OH Sae Joong	B12.06	PARK Chan	D3.02, D3.04, D3.03, D3.01		P2-pa.117, P2-pa.118, P2-pa.119, P2-pa.121	PARK Jun Kue	P2-co.107
OH Sang Hoon	D3.02, D3.04, D3.03, D3.01	PARK Chan	G3.06			PARK Junegyu	G11.02
OH Sang Hoon	G3.06	PARK Chan woo	P1-nu.003			PARK Jungsic	H1.02
OH Sanghyup	P2-co.217	PARK Chang-Soo	P2-se.015	PARK J.-H.	F9.02	PARK Jungwon	H12.04
OH Sangjun	P2-pl.304	PARK Cheol-Hwan	P2-ap.112	PARK J.	C4.09	PARK Jungwon	P1-ap.302
OH Sehoon	F8.03	PARK Chunghyun	P1-se.030	PARK J.	D5.01	PARK Jungwoo	P2-ap.105
OH Seokjae	P1-co.311	PARK Daeho	C14.05	PARK J. M. Sungil	P2-co.403	PARK Junsang	G4.02
OH Seol Hee	C12.04, P2-co.413	PARK Daeyoung	F6.06	PARK J.M.	G3.02	PARK K. H.	P2-pl.105
OH Seungyoon	A1.08	PARK Eonbyeong	P2-pl.505	PARK Jae-Hoon	P2-co.211	PARK Kang soon	P1-nu.003
OH Soogi	P2-pl.314	PARK Eun-Won	G13.06	PARK Jaebeom	D4.03, D4.02	PARK Kibog	C5.05
OH Sung Bin	P2-pa.106	PARK Eunkyu	P1-st.003	PARK Jaegyun	E1.02	PARK Kibog	C5.07
OH Tae-suk	C11.02	PARK Eunsan	G8.08	PARK Jaehun	C8.03	PARK Kibog	H12.04, P2-co.103
OH Yeongkook	P2-pl.312	PARK Garam	P2-co.403	PARK Jaehun	G11.08	PARK Kisoo	P1-co.510
OH Yongseok	F4.02	PARK Gibog	C5.02	PARK Jaeku	G11.08	PARK Kwonjin	P1-co.506
OH Yoomin	P2-pa.319	PARK Gun-Sik	H11.06	PARK Je-Geun	G8.05	PARK Kyeo-reh	C11.02
OH Yoon Seok	A13.04	PARK Gwanyeol	C5.02	PARK Je-Geun	G9.08, G9.05, H12.01, P1-co.510	PARK Kyung Ja	P2-co.207
OH Youngmin	A14.01	PARK Gwanyeol	C5.07, C5.05			PARK Kyungdeuk	D5.03
OHNO Yutaka	C6.02	PARK H.	G3.02			PARK M.Y.	P2-pa.322
OHTA Hiromichi	B7.02	PARK H. K.	P1-nu.009, P1-nu.008	PARK Je-Geun	H9.04	PARK Maruchan	F2.03
OK Jong Mok	F9.02, H8.07	PARK Hanbeom	P2-op.018	PARK Je-Geun	H9.05, A8.01, P2-ap.112, P1-co.508, P2-co.216	PARK Min-Ho	A6.01
OK Myoung-Ryul	P1-bp.026	PARK Hee-Sung	P1-bp.016			PARK Min-ho	P1-co.502
OKAMOTO Jun	G9.08	PARK Hee-Yeon	P2-co.309			PARK Min-ho	P2-ap.207
OLSEN Stephan Lars	P1-nu.003	PARK Hee Chul	D8.04			PARK Min Hyuk	E7.04
On behalf of the AMoRE		PARK Heemin	F7.03	PARK Jeagun	P1-se.019	PARK Minseok	P2-co.302, P2-co.209
Collaboration		PARK Heeyeon	P2-co.307	PARK Jee Woo	H9.01	PARK Minyoung	P2-co.405
	A1.03	PARK Ho Seok	F12.01	PARK Jeongmin	B8.07	PARK Miok	P2-pa.202
On behalf of the AMoRE		PARK Hwanbae	C4.06	PARK Ji won	E1.04	PARK Myoung Jin	B12.06
collaboration		PARK Hyang gyu	P1-nu.003	PARK Jin-Sung	C14.04	PARK Nam Kyou	B12.06
	P2-pa.324	PARK HyangKyu	P1-nu.005	PARK Jingyong	D11.06	PARK Noejung	P1-co.206
PABST Stefan	P1-at.001	PARK Hye Yoon	P1-bp.017	PARK Jinha	F2.01	PARK S. I.	B6.01
PAC Myoung Youl	H1.04	PARK Hye Yoon	P1-bp.027, P1-bp.004, P1-bp.019	PARK Jinsub	P2-ap.104	PARK S. Y.	F9.02
PAE Kihong	H11.05			PARK Jinwan	P2-op.023	PARK Sang Yoon	P2-ap.302
PAGLIONE Johnpierre	G9.07	PARK Hyeon Woo	E7.04	PARK Jinwoo	P2-se.001	PARK Sangjun	D14.07
PAIK Ho Jung	D3.02, D3.01	PARK Hyeonk	P1-pl.035	PARK Jisun	F12.03	PARK Sangjun	P1-bp.001
PAIK Ho Jung	G3.06	PARK Hyeonkeo	P1-pl.001	PARK Jiwon	F1.04	PARK Sehyeok	P1-pl.049
PARC Yong Woon	H11.08	PARK Hyunggyu	D2.06	PARK Jong-Seok	P1-bp.003	PARK Sein	P1-co.407
PARK Bae Ho	H12.02	PARK Il Hung	G3.01	PARK Jongho	P1-co.303	PARK Seokhee	P2-pa.115, P2-pa.116
PARK Bae Ho	H12.03, H12.01	PARK Inkyu	E1.06	PARK Jonghyun	P1-bp.011		
PARK Byeong-Gyu	P2-co.211	PARK Inkyu	E1.08, P2-pa.110, E1.09,	PARK JongKyu	P1-pl.008	PARK Seong Dae	P1-pl.053
PARK Byoung-Ho	P2-pl.314			PARK Joonbum	C8.03	PARK Seung-Young	H12.06
PARK Chan-Gyung	E3.06			PARK Ju Young	P2-pl.507	PARK Seung Beam	P2-op.001
				PARK Jubin	G2.08	PARK Seung Beom	H10.06



PARK Seung Beom	P2-op.006	PARK Yeje	D5.05	RAI Suresh	P1-pl.051	B1.03,
PARK Seung Ryong	F8.01	PARK Yong-Keun	P1-co.502	RAMESH Ramamoorthy		P2-pa.307,
PARK Seung Ryong	C8.09	PARK Yong-Keun	P2-ap.207		H7.06	P2-pa.310,
PARK Seung Ryong	E9.02	PARK Yong Woon	P1-se.020	RAMOLA Gautam	B5.02	P2-pa.311,
PARK Seung Ryong	H8.05, E8.01,	PARK YongKeun	C10.07,	RAN Weiguang	P1-ap.313	P2-pa.309
	P2-co.301		D14.04	RATHI Servin	P2-ap.306	
PARK Seungil	G11.07,	PARK Young-Jai	A2.06	RAVEENDRA N.V	G12.02	RUOFF Rodeny S.
	H11.02	PARK Youngju	B8.06	REUTER Rolf	C5.01	RYEE Siheon
PARK Soohyung	B12.03	PARK Youngju	P2-co.409	RHEE Jang-Roh	P2-ap.314	RYOO Ji Hoon
PARK Soonyong	H7.09,	PARK Youngsin	F5.04	RHEE Joo Yull	P2-ap.302	RYOO Kwangrok
	P1-co.312	PARK Yu Jung	A12.06	RHEE T.	P2-pl.306	
PARK Sun-A	P2-pl.317	PARK Yujung	A12.05	RHEE Tongnyeol	P2-pl.314	RYU Hanyoung
PARK Sun-Hee	C8.03	PARK Yunjae	P1-at.003	RHIE Kungwon	P2-ap.204,	RYU Huije
PARK Sung-Ju	P2-pl.115	PAWEL Hawrylak	D7.01		P2-ap.205	RYU Huije
PARK Sung-Ju	P2-pl.117	Peter Talkner	D2.08	RHIM Jun-Won	F8.01	RYU Hyejin
PARK Sung Jong	C4.03	PERRING Toby	P1-co.510	RHIM S.H.	G13.05	RYU Jiseung
PARK Sung Jun	P1-ap.304	PETERSON Byron Jay	P1-pl.013	RHYEE Jong-Soo	G9.02	RYU Jung-Wan
PARK Sung Keun	D4.08	PETROV Valentin	H10.01	RI Hyeong-Cheol	P2-co.307	RYU Mintae
PARK Sung Young	P1-bp.027	Petter Holme	A2.07, A2.05	RI Hyeong-Cheol	P2-co.309	RYU Sangkyun
PARK Sungheum	P1-ap.312,	Petter Minnhagen	A2.01	RI Jung Hye	B12.07	RYU Seungmin
	P1-ap.313,	PHAM Anh Tuan	G6.05	Richard H. Friend	A6.03	
	P1-ap.314,	PHAM Anh Tuan	P2-se.002	RICHARDS Matthew	P2-pa.202	SAAD Mahmoud M.
	P1-ap.315	PHAM Thi Kim Hang	G8.08	RO Tae-ik	P1-nu.017	
		PHAM ThiKimHang	P2-co.410	RO Tae-ik	P1-nu.019	Sagawa Hiroyuki
PARK Sungjoon	B8.08	PHUNG VANESSA LING JEN	P2-pl.110	RO Taeik	P1-nu.018,	SAKONG Won Kil
PARK Sungju	P1-ap.416				P1-nu.016	SANO Ryuichi
PARK Sungkeun	P2-pa.103,	PIAI Maurizio	H2.06	ROBENS Carsten	B5.02	SANVITO Stefano
	F1.07	PIMIKOV Alexandr	P1-nu.001	ROH Chang Jae	G7.04	SARAMAKI Jari
PARK Sungkyun	P1-co.311	PLENIO Martin B.	B5.01,	ROH Chang Jae	G7.05	SARGIS Ter-Avetisyan
PARK Sungkyun	P1-ap.409		A14.03	ROH Changjae	H7.03	SATHISH C. I.
		POLLNAU Markus	H10.01	ROH Changjae	P2-co.406	SAUD Shirjana
PARK Sungkyun	P2-co.213	PRASZALOWICZ Michal	A4.07	ROH Seulki	P1-co.211	SAWADA R.
PARK Sungwoo	H2.03			ROH Seulki	P2-co.210,	SAXENA, Siddharth Shankar
PARK Sungwoo	H2.05	PRATT Andrew	P2-co.410		P2-co.306,	
PARK Sungwook	P1-ap.312	PRELLIER Wilfrid	P2-co.412,		P2-co.305	SE Tola
PARK Suyeon	C14.05		G8.04	ROH Y.	B11.03	SEKMEN Sezen
PARK Suyeon	P2-pa.312	PURNAMA Indra	P1-co.509	ROH Yulan	P1-pl.029	SEMERTZIDIS K. Yannis
PARK Suyeon	P2-pa.320	PUSHPARAJ Adhikari	A1.05	ROOH Gul	C4.06	SEMERTZIDIS Yannis K.
PARK Tae Joo	C8.02	PYO Jeongsang	P2-ap.124	ROTERMUND Fabian	H10.01	
PARK Tae Joo	P2-co.411	QI Lei	P2-pl.303	ROTT Carsten	B1.01	SEMERTZIDIS Yannis K.
PARK Tuson	P1-co.211	QI Yonghui	A3.03	ROTT Carsten	B1.02	
PARK Tuson	P2-co.412,	QIN Zhou	C8.07	ROTT Carsten	G3.04	P2-pa.308,
	P2-co.210	RA Se Jin	P1-nu.009,	ROTT Carsten	P2-pa.303	P2-pa.316
PARK Won Il	F12.02		P1-nu.008	ROTT Carsten	P2-pa.305,	SEO H. J.
PARK Woosung	A4.04					SEO H.K.
						SEO Hyon San
						E1.02, E1.03



SEO In Cheol	D12.01	Sharif Saqib	H11.04	SHIN Soohyeon	P2-co.412,		P1-se.004
SEO Jeongjin	E9.02	SHARMA Amit Siddharth			P2-co.210	SO Mogeun	F6.06
SEO Ji Won	C8.09		P1-pl.050	SHIN Sung Gyun	P1-nu.016	SO W. Y.	C15.03
SEO Jung Hwa	A12.06	SHEN Z.-X.	F9.04	SHIN Wonsub	H6.04	SOH Hyungjoon	P1-st.014
SEO Junghwa	A12.05	SHEN Zexiang	D13.03	SHIN Wonsub	H6.05	SOHN Byungmin	P2-co.203
SEO Junghwa	A6.02	SHI YueJiang	P1-pl.008	SHIN Woojong	P2-co.303	SOHN Jeonghun	E8.02
SEO Jungpil	P2-op.023	SHIM Chi Hyun	H11.08	SHIN Y. H.	P2-se.027	SON Byungmin	C9.01
SEO Junho	P2-pl.505	SHIM Hyun Kwan	P2-op.005	SHIN Yeong Jae	P1-ap.419	SON Dong Ick	B12.03
SEO Kyungmin	P2-pa.319,	SHIM Hyunah	C4.05	Shin Yeongjae	G7.01	SON Edwin J.	D3.02, D3.01
	P1-nu.003	SHIM J. H.	E13.02	SHIN Yong-il	H9.02, H9.01	SON Edwin J.	D3.04, D3.03
SEO Minah	D10.03	SHIM J. H.	F9.02	SHIN Young Han	G7.05	SON Edwin J.	G3.06
SEO Sang Won	H9.02	SHIM Jae Youn	P1-bp.019	SHIN Yuseop	P1-pl.024	SON Hye Mi	P2-ap.302
SEO sejin	P2-ap.106	SHIM Jaehoon	P1-bp.001	SHINDE K. P.	P2-co.106	SON Jaeseok	P2-co.204
SEO Seon-Hee	P2-pa.314	SHIM Je-Ho	H12.06	SHINOHARA Kouji	P2-pl.327	SON Jangyup	E10.02
SEO Seong-Heon	P2-pl.323	SHIM Ji Hoon	E13.04	SHON Wonhyuk	G9.02	SON Jangyup	F5.06
SEO Seonhee	B1.04	SHIM Ji Hoon	F8.01	SHON Yoon	P2-se.015	SON Ju Kyung	P1-nu.009,
SEO Shem	P1-pl.024	SHIM Sang-Hee	P1-bp.002	Shota Shibagaki	H4.03		P1-nu.008
SEO Tae Hoon	F6.03	SHIM Sang-Hee	P1-bp.003	SHUANG Feng	B5.05	SON Seung-Woo	A2.06
SEO Taehoon	F5.08	SHIM Sungyong	P1-pl.040	SIKIVIE Pierre	C1.01	SON Soo-Hyun	P2-pl.314
SEO Yu-seong	P2-co.210,	SHIM Taehun	P1-se.029	SIM Hasung	G8.05	SON Suhan	P1-co.508
	P2-co.306	SHIMIZU Makoto	C6.04	SIM Hasung	G9.05	SON Woo-Sik	D2.02
SEO Yu-seong	P2-co.305	SHIN Chansun	P1-pl.021	SIM Hasung	H9.05	SON Yeong Jun	P1-ap.414,
SEO Yunseok	A3.03	SHIN Dong Hoon	G12.03	SIM Heungsun	D5.05		P2-ap.120
SEOG Hae Jin	P1-co.307	SHIN Dong Seok	B8.07	SIM Jae-Hoon	G13.07,	SONG Changyong	P1-co.405,
SEOL Daehee	H7.03	SHIN DONGBIN	F13.08		P2-co.202		F7.06
SEOL Kuyngtae	E11.01	SHIN Dongbin	P1-co.206	SIM Jae-Hoon	G9.06	SONG Changyong	P1-co.408,
SEON Changrae	P2-pl.305	SHIN Dongmyeong	C6.03	SIM Ki Deok	E11.04		P1-co.407
SEON Yonggeun	P1-nu.011	SHIN H. J.	P2-co.214	SIM Sangwan	E10.02	SONG Da Ye	P1-se.025
SEONG T. S.	P2-pl.328	SHIN H. W.	P1-pl.018,	SIM So Hee	P1-co.211	SONG Dongjoon	C8.09
SEONG Taesik	P1-pl.047,		P1-pl.019	SIN Sang-Jin	A3.03	SONG Dongjoon	E9.02
	P2-pl.115	SHIN Heedeuk	D5.03	SINGER Robert H	P1-bp.017	SONG Dongjoon	H8.05, H8.04
SEONG Yeol-heon	F2.03	SHIN Hoseung	E10.02	SINGH R.	P2-pl.320	SONG Dongjoon	P2-co.301
SEPE Alessandro	B12.01	SHIN Jae Cheol	P1-se.002	SINGH, Prashant Kumar		SONG Dongjoon	P2-co.306,
SEPTIADI Arifin	P1-pl.050	SHIN Jae Won	H1.03		H11.04		P2-co.305
SERGEYEVICH Sergey	P2-pa.303	SHIN Jaeho	A12.04	SIRRINGHAUS Henning		SONG Eunho	P1-bp.006
SERGEYEVICH Sergey	P2-pa.305	SHIN Jong-Choel	D12.05		B12.01	SONG Eunkei	P1-pl.040
SERGEYEVICH Sergey	P2-pa.309,	SHIN Jonghun	D14.04	SIYEON Kim	B1.05, B1.06,	SONG Geunho	A3.03
	P2-pa.311	SHIN Keon Ah	P1-nu.009,		P2-pa.323	SONG Hoon	H11.05
SERGEYEVICH Serguey			P1-nu.008	SLAOUI Abdelilah	C12.04	SONG Hyeontae	P2-op.011
	B1.01, B1.02	SHIN KeonAh	P1-nu.005	SMET Jurgen H.	B10.07	SONG Inkyung	E8.01
SERGEYEVICH Serguey		SHIN Mincheol	C7.02	So Hyeon Seob	P2-pl.317	SONG Inkyung	F8.01
	P2-pa.307,	SHIN Minsang	C14.05	So Hyeonseob	P1-se.023	SONG J. D.	B6.01
	B1.03, P2-	SHIN Sanghoon	P1-se.008	SO Mo Geun	P1-se.002	SONG Jae Min	P2-pl.317
	pa.310	SHIN Soochul	P1-bp.009	SO Mo Geun	P1-se.005,	SONG Jaesun	P2-co.208

SONG Jin-Dong	G6.04	SUN Liling	D13.02	UNNO Yuuji	P2-pa.108	WOO Jong-Kwan	P1-bp.028
SONG Jin Dong	P2-co.101	SUN Xia	P2-co.410	UNNO Yuuji	P2-pa.112	WOO M.H.	A11.03
SONG Jindong	P1-se.008	SUNG Daeho	P1-co.407	VADACCHINO Davide	H2.06	WOO Minho	P2-pl.312
SONG Jonghyun	P2-co.414	SUNG Dongchul	P2-co.404	VAN DER ZANDE Arend		WOO Seonghoon	B13.01
SONG Junho	F12.03	SUNG Ha-Jun	F13.03		F5.06	WOO Sung Pil	P1-nu.015
SONG Kyung Mee	B13.01	SUR Yeahan	A9.03	VLCEK Lukas	E13.04	WOO Sungmin	P1-co.315, P2-co.412
SONG KyungMee	B13.05	SWAIN Mitali	G8.06	VO, THI MINH HOA	P1-bp.024	WRACHTRUP Joerg	C5.01
SONG Sehwan	P1-ap.409	TAKABATAKE T.	P1-co.505	VOLKOFF Tyler	D5.04	WU Sangwook	P1-bp.026
SONG Seunghyun	F12.03	TAKAKI Daniel Tapia	G4.05	VU Thi Hoa	G6.05	WU Yang	P2-op.005
SONG Seunghyun	P1-se.029	TAKEDA T.	E4.01	VU Thi Hoa	P2-se.002	XIA Juan	D13.03
SONG T. K.	H7.08	TAKEDA Yusuke	H4.02	WAGNER Claudia	A2.04	XIE Xiaoyin	P1-ap.104
SONG Wonho	P2-co.103	TAKEISHI Ryuji	G3.01	Walker Bright	A12.05	XU Chongyang	P1-ap.105
SONG Woon	C5.02	TAN Joshua Artem	P1-nu.011	WALKER Bright	A12.06	XU Xianghan	P1-co.510
SONG Woon	C5.07, C5.05	TANAKA Hisaaki	B12.01	WALKER Bright	A6.02	XUE Junpeng	P1-ap.314
SONG Younggi	P2-pl.109	TANIDA Kiyoshi	G4.02	WALKER Helen	P1-co.510	YAKHSHIEV Ulugbek	A4.03
SONG Yunheung	D5.05	TANKA Rana	P2-ap.309	WANG Bo	G7.01	YAMADA I.	P2-pl.310
SONG Yunheung	P1-at.006, P1-at.005	TATE Shinichi	P1-bp.020	WANG Gunuk	A12.04	YAN Jiaxu	D13.03
SOULIOTIS G.A.	C4.09	TERZOLO Laurent	P2-pl.314	WANG gunuk	P1-ap.102	YANG Beelyong	P2-ap.114, P2-ap.115, P2-ap.116
SPITZ Joshua	G1.03	THATIPAMULA Shekar	Goud P2-pl.319	WANG Gunuk	P2-ap.304, P1-ap.103		
SRIV Tharith	E12.04	Toshitaka Kajino	H4.03	WANG J. C.	P2-co.206	YANG Bohm-Jung	B10.06
STEPHEN R. Sharpe	H2.02	Tran Thi Toan	P1-se.001	WANG Jongin	P1-pl.009	YANG Bohm-Jung	B8.08
STOTYN Sean	P2-pa.202	TRAN Tuyen Ngoc	G10.05	WANG Lei	B10.07	YANG Bohm Jung	T5.01
STROHMAIER Markus	A2.04	TRAN Tuyen Ngoc	G10.06	WANG Lihai	H9.04	YANG Chan-Ho	H7.06
STRUZHKIN Viktor	C13.04	TRUONG Thuy Kieu	F12.04	WANG Lingfei	G7.01, P1-ap.419	YANG Chan Ho	G7.04
SUH Dongseok	C12.07	TSERKOVNYAK Yaroslav			P2-pl.328	YANG Chanho	G7.06
SUH Dongseok	H6.08, F12.04, B10.01, B8.07	TSHOO K.	C9.03 C4.09	WANG S.	P2-pl.312	YANG Ghil-Seok	A4.07
		TSUMURA M.	E4.01	WANG Sunjung	G9.07	YANG Guang	P2-pa.321
		TURNER Adam H.	E12.02	WANG Xiangfeng	A7.02	YANG Haeryong	P2-pl.108
SUH Dongseok	P1-ap.405, P2-te.011	TYSON Tony	G3.07	WANG Youwei	E4.01	YANG Hwan Kim	B5.03
		UEDA Kohei	P2-co.415	WATANABE K.	B12.01	YANG Hyun Kyoung	P1-ap.303, P1-ap.304
SUH Eun-Kyung	F6.03	UHM Heesoo	C14.08	WATANABE Shun	C2.03, P2-pa.110, P2-pa.117, E1.06	YANG In-Sang	G8.05
SUH Eunkyung	F5.08	UHM Heesoo	P1-bp.006, P1-bp.008	WATSON Ian James		YANG Inmok	P2-pl.505
SUH H. S.	P2-pl.105					YANG J.Y.	P2-pa.322
SUH JungMin	C15.06	UHM Heesoo	P1-bp.010	WEI Su-Huai	A7.01	YANG Jeon Wook	P1-se.020
SUH Junho	B10.03, B10.02	UHM Heesoo	P1-bp.027	WEI Su-Huai	G6.06	YANG Jinho	P2-ap.101
		UM Jaegon	D2.06	WI Sangwon	P2-ap.117	YANG Jinho	P2-ap.109
SUK H.	B11.03, B11.03	UMAR Muhammad	P1-ap.101	WI Sangwon	P2-co.205	YANG Jiseok	F7.06
		UMBERTO Giovannini	F13.08	WILDES Andrew	H9.04	YANG Jongkeun	P1-pl.051
SUK Hyyong	H11.04	UNNO Y.	C2.01	WON Hayeon	P2-co.416	YANG JungYup	P1-se.026
SUK Hyyong	P1-pl.029	UNNO Y.	P2-pa.109, P2-pa.126	WON M.S	D11.06	YANG S.M.	A11.03
SUK Hyyong	P1-pl.030			WOO Hee Chul	P2-ap.119	YANG Sangmo	G7.01
SUK HYYONG	P2-pl.110	UNNO Yuji	P2-pa.107				

YANG Seong-Gyu	A2.08	YOO Jisoo	P1-se.029	YOON young soo	P1-nu.003	YUN Seokhwan	P2-co.216
YANG Seong Jun	E10.03	YOO Junghoon	P2-co.302,	YOON Young Soo	P1-nu.015	YUN Won Seok	E13.05
YANG SeongMoo	P1-pl.008		P2-co.209	YOON Young Soo	P2-pa.319	YUN Yoojoo	B8.07
YANG Seunghoon	A12.04	YOO Jungmin	C14.05	YOSHIDA S.	E4.01	YUN Young Jin	A12.06
YANG Seunghoon	E10.02	YOO Jungmin	P1-bp.023	YOSHIDA Y.	E9.02	ZAMIRI Marziyeh	B6.03
YANG Seungjin	E1.06,	YOO Kyung-Hwa	P1-ap.202,	YOU Chun-Yeol	P1-co.502,	ZEESHAN Jadoon	P1-at.009
	P2-pa.110		P1-ap.412		P1-co.504,	ZEESHAN Tahir	P1-ap.208
YANG Seungmo	H6.05, H6.04	YOO Kyung-Hwa	P1-ap.203		P2-co.403	ZHANG Pengming	P1-nu.001
YANG Seungmo	P1-se.026	YOO Min-Gu	G11.05	YOU Chun-Yeol	P1-co.509,	ZHANG Wenqing	A7.02
YANG Siyoung	P2-pl.505	YOO Sangdong	P1-se.029		P1-co.506,	ZHANG Yan	F9.04
YANG Sojeong	P1-pl.049	YOO Suk Jae	G11.07,		H12.05,	ZHANG Yu-qiao	B7.02
YANG Sunseok	C10.06		H11.02		P2-ap.207	ZHANG Yuanbo	B10.07
YANG Un-ki	E1.02, E1.03	YOO Tae Sup	H7.03	YOUN SeongYoen	D14.04	Zhenyu ZHANG	C8.05
YANG Un-Ki	E1.07	YOON Chansoo	H12.02	YOUN Sungwoo	P2-pa.308,	ZHUNG Chan June	C8.03,
YANG Un-ki	F1.06	YOON Chansoo	H12.03,		P2-pa.316		P2-co.412
YANG Un Ki	P2-pa.106		H12.01	YU Geum Bong	E1.03		
YANG Weitaο	C7.01	YOON Dang-Hyok	P1-pl.050	YU Geumbong	E1.07		
YANG Woo-Il	P2-ap.203	YOON G.S.	A11.03	YU GeumBong	F1.06		
YAP Chuinhong	P2-pl.401	YOON Hahnjoo	P2-ap.104	YU I.T.	P2-pa.322		
YE Ryonghae	G2.02	YOON Hongkee	G13.07	YU Intae	P2-pa.128		
YE Z. R.	F9.04	YOON Hongkee	P1-co.201	YU JAE-IN	P1-ap.406		
YEO Dong Kyu	F6.03	YOON Hoon Hahn	H12.04,	YU Jae Jun	H7.03		
YEO Dongkyu	F5.08		P2-co.103	YU Jae Su	G6.02		
YEO Insung	P2-pa.104	YOON Hyun Jung	P1-bp.026	YU Jeongmin	C14.05		
YEO Insung	P2-pa.301	YOON Inseok	F1.06	YU Jeongmin	P1-bp.022		
YEO Junyeob	P2-co.416	YOON Jae-Sung	P1-pl.053	YU Kwangnam	B10.04		
YEO Kangmo	C8.01	YOON Ji-Hui	P1-ap.307	YU S.W.	P2-pa.322		
YEOM Dong-han	E3.08	YOON Jinsu	P2-ap.204,	YU Tae Jun	P2-op.007		
YEOM Hanwoong	E13.03		P2-ap.205	YU Young-Sang	B13.03		
YEUM Dongnyeok	P2-pa.314	YOON Jun-Yeong	H12.04,	YU Younghun	P2-op.010		
YI Changho	G11.07,		P1-ap.306	YU Youngseok	P2-co.415		
	H11.02	YOON Jungran	P1-nu.017	YU Yunjie	H9.04		
YI Hyunjung	P1-ap.301	YOON Jungran	P1-nu.018	YUGAMI Hiroo	C6.04		
YI Jungyu	D4.02	YOON S.W.	A11.03	YUN Byung Kil	P2-co.413		
YI Juyeon	D2.08	YOON Seokchan	B5.06	YUN Byungkil	F12.05		
YI Su Min	P2-pl.303	YOON Seokhyon	P2-se.026	YUN Changjin	P2-ap.204,		
YI Sum-Gyun	P1-ap.412	YOON Seokhyun	C12.05,		P2-ap.205		
YI Yeonjin	B12.03		B12.07	YUN Gunsu	P1-pl.001		
YIM Hyungsan	P2-pa.127	YOON Seongsoo	P1-co.506	YUN Gunsu	P2-pl.319		
YONG Daeseong	E2.01	YOON Sung-Young	H11.02	YUN Hyeok	P2-op.006,		
YOO Hwidong	P2-pa.113	YOON Sungyoung	G11.07		A5.01		
YOO Hyung-Ha	P1-st.010	YOON Woo Young	C12.06,	YUN Jae-Ho	P2-se.026		
YOO Jaeyun	F2.03		C12.01	YUN Jae Ho	P2-ap.309		
YOO Jeongwon	P2-pl.314	YOON Young Jin	A6.02	YUN Jong-Won	F5.03		

한국물리학회 회보 제35권 제2호

인 쇄 2017년 10월 17일

발 행 2017년 10월 25일

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