



서울대학교 이론물리학연구소

Newsletter vol.49

차 례

- 1 연구원 동정
- 1 연구원 임용
- 2 박사학위 취득자
- 3 연구논문
- 7 학술행사
- 8 세미나

Center for Theoretical Physics
Seoul National University
Seoul 151-747, Korea
Phone (02) 880-6523 / Fax (02) 884-7167
<http://ctp.snu.ac.kr>

발행일 : 2014년 3월
발행인 : 최무영

연구원 동정

강병남 교수, 이달의 과학기술자상 수상 (2013.5)

우리 연구소 강병남 교수는 미래창조과학부와 한국연구재단·서울경제신문이 주관하는 이달의 과학기술자상 수상자(5월)로 선정되었다.

강병남 교수는 지난 10여년간 복잡계 네트워크에서 일어나는 다양한 상전이 현상과 동역학 성질을 연구하였고, 최근 억제된 환경 속에서 물질의 작은 조각으로 구성된 클러스트에 대한 폭발적 여과전이 모형에 대한 연구를 통해 상전이 현상의 메커니즘을 하나의 통일된 틀에서 설명하는 연구 성과를 인정받았다.

이번 결과는 사이언스지에 발표되었으며, 미국 수학회(MATH in the MEDIA) 4월호에도 소개되었다.

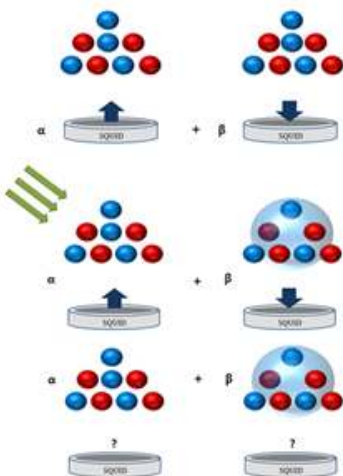


이수종 교수, Elsevier 발간 학술지 우수평가자로 선정 (2013.3)



우리 연구소 이수종 교수가 Elsevier출판사에서 발간하는 모든 과학, 기술, 의학 학술지에서 추천한 25명의 우수평가자 중 한명으로 선정되었다. (Nuclear Physics B)

Uwe R. Fischer 국내 연구진, 양자 컴퓨터 가능성을 열다. (PRL 논문게재) (2013.12)



국내 연구진이 SQUID (superconducting quantum interference device)와 BEC (Bose-Einstein condensate)의 단일 뢰드베리 원자 (Rydberg atom)를 결합한 양자 복합 시스템으로 양자 컴퓨터의 기본 요소인 qRAM (quantum random access memory)의 처리속도와 정보 저장기간을 동시에 늘릴 수 있는 방법을 제시했다. 서울대 물리천문학부 Uwe R. Fischer 연구팀의 이번 연구결과는 물리학계의 권위지 'Physical Review Letters' 온라인판을 통해 12월 12일에 발표되었다.

(논문명: Ultrafast quantum random access memory utilizing single Rydberg atoms in a Bose-Einstein condensate)

Fischer 교수는 "이번 우리 그룹의 이론적 제안은 연관된 실험을 하는 실험물리학자들로부터 많은 관심을 모으고 있다. 그리고 우리가 제안한 방식이 향후 양자 컴퓨터와 관련된 연관분야에 흥미로운 발전의 계기가 될 것이라 생각한다."고 하였다.

연구원 임용

직급	성명	임용기간	박사학위 취득대학
연수연구원	Igor Shenderovich	2013.03.01-2014.04.30	CEA Saclay, Institute for Theoretical Physics
연수연구원	고세건	2013.03.01-2013.08.31	서울대학교
연수연구원	임상희	2013.03.01.-2014.04.30	KAIST
연수연구원	한경림	2013.03.01-2013.08.31	서울대학교
연수연구원	Hiroyuki Kitamoto	2013.04.01-2014.08.31	The Graduate University of Advanced Studies
연수연구원	Daisuke Yokoyama	2013.04.01-2015.03.31	Tokyo Institute of Technology
연수연구원	Daniel Krefl	2012.09.01-2014.08.31	Ludwig-Maximilians-University
연수연구원	Shailesh Lal	2013.10.01.-2014.08.31	The Harish-Chandra Institute, India
연수연구원	이덕재	2013.09.01-2014.09.01	서울대학교
연수연구원	김강훈	2013.09.01-2014.02.28	서울대학교
연수연구원	최철호	2013.09.01-2014.02.28	서울대학교
연수연구원	김지훈	2013.09.01-2014.04.31	서울대학교

박사학위 취득자

성명	지도교수	취득일	학위논문제목
노정호	강병남	2013년 8월	Pricing Barrier Options: A Probabilistic Approach
최근수	임지순	2013년 8월	A First Principles study on the electronic and structural properties of silicene on $\sqrt{3}\times\sqrt{3}$ Si(111)-Ag(Au) monolayer
김강훈	강병남	2013년 8월	Traffic flow on complex networks: with packet transfer models
박재성	이수종	2013년 8월	Non perturbative studies on conformal field theories and strings
김영국	임지순	2013년 8월	First-principles study of the defect-related electronic structure and properties in the honeycomb lattice systems
최철호	강병남	2013년 8월	Synchronization of Coupled Oscillators
이덕재	강병남	2013년 8월	Computational social network analysis: from the perspective of Statistical physics
황성민	강병남	2014년 2월	Random Walks and other Laplacian-derived Dynamics in Scale free networks

연구논문

연번	저자	논문제목	학술지명	권	호	쪽
1	Kim, S (Kim, S.)	Three-dimensional superconformal field theories, indices, and monopoles	THEORETICAL AND MATHEMATICAL PHYSICS	174	1	68-77
2	Bae, KJ (Bae, Kyu Jung)/ Jung, TH (Jung, Tae Hyun)/ Kim, DH (Kim, Hyung Do)	125 GeV Higgs boson as a pseudo-Goldstone boson in supersymmetry with vectorlike matters	PHYSICAL REVIEW D	87	1	-
3	Lee, K (Lee, Kayoung)/ Fallahazad, B (Fallahazad, Babak)/ Min, H (Min, Hongki)	Transport Gap in Dual-Gated Graphene Bilayers Using Oxides as Dielectrics	IEEE TRANSACTIONS ON ELECTRON DEVICES	60	1	103-108
4	Dabo, I (Dabo, Ismaila)/ Ferretti, A (Ferretti, Andrea)/ Park, CH (Park, Cheol-Hwan)/ Poilvert, N (Poilvert, Nicolas)	Donor and acceptor levels of organic photovoltaic compounds from first principles	PHYSICAL CHEMISTRY CHEMICAL PHYSICS	15	2	685-695
5	Lee, J (Lee, Jounghun)/ Zhao, GB (Zhao, Gong-Bo)/ Li, BJ (Li, Baojiu)/	MODIFIED GRAVITY SPINS UP GALACTIC HALOS	ASTROPHYSICAL JOURNAL	763	1	-
6	Lim, S/ Lee, J	An extended Zel'dovich model for the halo mass function	JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS			-
7	Aasi, J (Aasi, J.)/ Abadie, J (Abadie, J.)/ Abbott, BP (Abbott, B. P.)/ Abbott, R (Abbott, R.)/ Abbott, TD (Abbott, T. D.)/ Abernathy, M	Search for gravitational waves from binary black hole inspiral, merger, and ringdown in LIGO-Virgo data from 2009-2010	PHYSICAL REVIEW D	87	2	-
8	Kim, J (Kim, Jinhong)/ Han, J (Han, Jisun)/ Seo, M (Seo, Moonsu)/ Kang, S (Kang, Shinhoo)/ Kim, D (Kim, Dongok)/ Ihm, J (Ihm, Jisoon)	High-surface area ceramic-derived boron-nitride and its hydrogen uptake properties	JOURNAL OF MATERIALS CHEMISTRY A	1	4	1014-1017
9	Kim, P (Kim, P.)/ Lee, DS (Lee, D. -S.)/ Kahng, B (Kahng, B.)	Phase transition in the biconnectivity of scale-free networks	PHYSICAL REVIEW E	87	2	-
10	Hwang, S (Hwang, S.)/ Lee, DS (Lee, D. -S.)/ Kahng, B (Kahng, B.)	Origin of the hub spectral dimension in scale-free networks	PHYSICAL REVIEW E	87	2	-
11	Gretarsson, H / Clancy, JP (Clancy, J. P.)/ Liu, X (Liu, X.)/ Hill, JP (Hill, J. P.)/ Singh, Y (Singh, Yogesh)/ Gegenwart, P (Gegenwart, P.)/ Kim, J (Kim, Jungho)	Crystal-Field Splitting and Correlation Effect on the Electronic Structure of A(2)IrO(3)	PHYSICAL REVIEW LETTERS	110	7	-

연번	저자	논문제목	학술지명	권	호	쪽
12	Jon Bailey, Weonjong Lee, Boram Yoon, Hyung-Jin Kim	Recent progress in staggered chiral perturbation theory	PROCEEDINGS OF SCIENCE	CD12	041	-
13	Lee, SW (Lee, Seung-Woo)/ Jeong, H (Jeong, Hyunseok)	Near-deterministic quantum teleportation and resource-efficient quantum computation using linear optics and hybrid qubits	PHYSICAL REVIEW A	87	2	-
14	Lee, SW (Lee, Seung-Woo)/ Paternostro, M (Paternostro, Mauro)/ Lee, J (Lee, Jinhyoung)/ Jeong, H (Jeong, Hyunseok)	Testing genuine multipartite nonlocality in phase space	PHYSICAL REVIEW A	87	2	-
15	Cho, YS (Cho, Y. S.)/ Hwang, S (Hwang, S.)/ Herrmann, HJ (Herrmann, H. J.)/ Kahng, B (Kahng, B.)	Avoiding a Spanning Cluster in Percolation Models	SCIENCE	339	6124	1185-1187
16	Kim, J (Kim, Jinhong)/ Lee, D (Lee, Deokjae)/ Kahng, B (Kahng, Byungnam)	Microscopic Modelling Circadian and Bursty Pattern of Human Activities	PLOS ONE	8	3	-
17	Moon, KW (Moon, Kyoung-Woong)/ Kim, DH (Kim, Duck-Ho)/ Yoo, SC (Yoo, Sang-Cheol)/ Cho, CG (Cho, Cheong-Gu)/ Hwang, S (Hwang, Sungmin)/ Kahng, B (Kahng, Byungnam)/ Min, BC (Min, Byoung-Chul)	Distinct Universality Classes of Domain Wall Roughness in Two-Dimensional Pt/Co/Pt Films (vol 110, 107203, 2013)	PHYSICAL REVIEW LETTERS	110	13	-
18	Kim, SH (Kim, Seong Heon)/ Jeong, HG (Jeong, H. G.)/ Lim, SJ (Lim, S. J.)/ Ham, UD (Ham, U. D.)/ Song, YJ (Song, Y. J.)/ Yu, J (Yu, J.)	Geometric and electronic properties of porphyrin molecules on Au(111) and NaCl surfaces	SURFACE SCIENCE	613		54-57
19	Bailey, JA (Bailey, Jon A.)/ Lee, W (Lee, Weonjong)/ Yoon, B (Yoon, Boram)	Taste non-Goldstone, flavor-charged pseudo-Goldstone boson decay constants in staggered chiral perturbation theory	PHYSICAL REVIEW D	87	5	-
20	Cho, MW/Choi, MY	Modulation of the boundary between hierarchically differentiated domains in a self-organizing neural system	EPL	101		-

연번	저자	논문제목	학술지명	권	호	쪽
21	Kwon, HW (Kwon, H. W.)/ Kim, HS (Kim, H. S.)/ Lee, K (Lee, K.)/ Choi, MY (Choi, M. Y.)	Information-sharing tendency on Twitter and time evolution of tweeting	EPL	101	5	-
22	Kim, HS (Kim, Heung-Sik)/ Kim, CH (Kim, Choong H.)/ Jeong, H (Jeong, Hogyun)/ Jin, H (Jin, Hosub)/ Yu, J (Yu, Jaejun)	Strain-induced topological insulator phase and effective magnetic interactions in Li ₂ IrO ₃	PHYSICAL REVIEW B	87	16	-
23	Hong, J (Hong, Jongsuk)/ Kim, E (Kim, Eunhyeuk)/ Lee, HM (Lee, Hyung Mok)/ Spurzem, R (Spurzem, Rainer)	Comparative study between N-body and Fokker-Planck simulations for rotating star clusters - II. Two-component models	MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY	430	4	2960-2972
24	Seo, MS/Kim, JH/Kim, JM/Han, JS/Kang, S/Ihm, JS/Kim, DO	Tunable and selective formation of micropores and mesopores in carbide-derived carbon	CARBON	60		299-306
25	Jozwiak, C (Jozwiak, Chris)/ Park, CH (Park, Cheol-Hwan)/ Gotlieb, K (Gotlieb, Kenneth)/ Hwang, C (Hwang, Choongyu)/ Lee, DH (Lee, Dung-Hai)/ Louie, SG	Photoelectron spin-flipping and texture manipulation in a topological insulator	NATURE PHYSICS	9	5	293-298
26	Han, MJ (Han, Myung Joon)/ Kim, HS (Kim, Heung-Sik)/ Kim, DG (Kim, Dong Geun)/ Yu, J (Yu, Jaejun)	Collinear and noncollinear spin ground state of wurtzite CoO	PHYSICAL REVIEW B	87	18	-
27	Song, H (Song, Hyunmi)/ Lee, J (Lee, Jounghun)	MASSIVE NEUTRINOS PROMOTE THE SIZE GROWTH OF EARLY-TYPE GALAXIES	ASTROPHYSICAL JOURNAL	768	2	-
28	Lee, J (Lee, Jounghun)/ Lemson, G (Lemson, Gerard)	On the spin bias of satellite galaxies in the local group-like environment	JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS			-
29	Torlai, G (Torlai, G.)/ McKeown, G (McKeown, G.)/ Marek, P (Marek, P.)/ Filip, R (Filip, R.)/ Jeong, H (Jeong, H.)	Violation of Bell's inequalities with preamplified homodyne detection	PHYSICAL REVIEW A	87	5	-
30	Neergaard-Nielsen, JS (Neergaard-Nielsen, Jonas S.)/ Eto, Y (Eto, Yujiro)/ Lee, CW (Lee, Chang-Woo)/ Jeong, H (Jeong, Hyunseok)/ Sasaki, M (Sasaki, Masahide)	Quantum tele-amplification with a continuous-variable superposition state	NATURE PHOTONICS	7	6	440-444

연번	저자	논문제목	학술지명	권	호	쪽
31	Yang, S (Yang, Seungho)/ Jeong, H (Jeong, Hyunseok)/ Son, W (Son, Wonmin)	Additivity relations in quantum correlations	PHYSICAL REVIEW A	87	5	-
32	Seo, WY (Seo, Woo-Young)/ Kim, WT (Kim, Woong-Tae)	STAR FORMATION IN NUCLEAR RINGS OF BARRED GALAXIES	ASTROPHYSICAL JOURNAL	769	2	-
33	Kim, HD (Kim, Hyung Do)/ Mo, DY (Mo, Doh Young)/ Seo, MS (Seo, Min-Seok)	Neutrino assisted gauge mediation	EUROPEAN PHYSICAL JOURNAL C	73	6	-
34	Yun Li and Jaejun Yu	Modulation of electron carrier density at the n-type LaAlO ₃ /SrTiO ₃ interface by water adsorption	JOURNAL OF PHYSICS-CONDENSED MATTER	25	26	265004-
35	Yun Li and Jaejun Yu	Two-dimensional electron gas generated by La-doping at SrTiO ₃ (001) surface: A first-principles study	AIP ADVANCES	3	6	062116-1-062116-7
36	Jeong, DW (Jeong, D. W.)/ Choi, HC (Choi, Hong Chul)/ Kim, CH (Kim, Choong H.)/ Chang, SH (Chang, Seo Hyoung)/ Sohn, CH (Sohn, C. H.)/ Park, HJ (Park, H. J.)/ Kang, TD (Kang, T. D.)/ Cho, DY (Cho, Deok-Yong)/ Baek, SH (Baek, S. H.)	Temperature Evolution of Itinerant Ferromagnetism in SrRuO ₃ Probed by Optical Spectroscopy	PHYSICAL REVIEW LETTERS	110	24	-
37	Kim, JH (Kim, Ji-hoon)/ Lee, J (Lee, Jounghun)	How does the surface density and size of disc galaxies measured in hydrodynamic simulations correlate with the halo spin parameter?	MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY	432	2	1701-1708
38	Choi, J (Choi, J.)/ Choi, MY (Choi, M. Y.)/ Chung, MS (Chung, M. S.)/ Yoon, BG (Yoon, B. -G.)	DYNAMIC TRANSITION AND RESONANCE IN COUPLED OSCILLATORS UNDER SYMMETRY-BREAKING FIELDS	INTERNATIONAL JOURNAL OF MODERN PHYSICS B	27	14	-
39	Bader, P (Bader, Philipp)/ Fischer, UR (Fischer, Uwe R.)	Stability of spherically trapped three-dimensional Bose-Einstein condensates against macroscopic fragmentation	PHYSICAL REVIEW A	87	2	-
40	Patton, KR/Fischer, UR	Transfer and storage of qubits in the presence of decoherence	EPL	102		-

연번	저자	논문제목	학술지명	권	호	쪽
41	Patton, KR (Patton, Kelly R.)/ Fischer, UR (Fischer, Uwe R.)	Hybrid of superconducting quantum interference device and atomic Bose-Einstein condensate: An architecture for quantum information processing	PHYSICAL REVIEW A	87	5	-
42	Kim, HD (Kim, Hyung Do)/ Kim, SG (Kim, Sung-Gi)/ Shin, S (Shin, Seodong)	D0 dimuon charge asymmetry from B-s system with Z ' couplings and the recent LHCb result	PHYSICAL REVIEW D	88	1	-
43	Yoon, B/Jang, YC/Jung, C/Lee, W	Covariance fitting of highly-correlated data in lattice QCD	JOURNAL OF THE KOREAN PHYSICAL SOCIETY	63	2	145-162
44	Lee, C (Lee, Choonkyu)/ Lee, K (Lee, Kimyeong)	Quantum mechanical Hamiltonians with large ground-state degeneracy	ANNALS OF PHYSICS	331		258-268
45	Park, C (Park, Changwon)/ Ihm, J (Ihm, Jisoon)/ Kim, G (Kim, Gunn)	Decay behavior of localized states at reconstructed armchair graphene edges	PHYSICAL REVIEW B	88	4	-
46	Jaewoo Joo, Kimin Park, Hyunseok Jeong, William J. Munro, Kae Nemoto, and Timothy P. Spiller	The enhanced phase estimation using quantum Fisher information in nonclassical continuous-variable states and its application	PROCEEDINGS OF THE FIRST INTERNATIONAL WORKSHOP ON ENTANGLED COHERENT STATES AND ITS APPLICATION TO QUANTUM INFORMATION SCIENCE			27-33
47	Seung-Woo Lee, and Hyunseok Jeong	Bell-state measurement and quantum teleportation using linear optics: two-photon pairs, entangled coherent states, and hybrid entanglement	PROCEEDINGS OF THE FIRST INTERNATIONAL WORKSHOP ON ENTANGLED COHERENT STATES AND ITS APPLICATION TO QUANTUM INFORMATION SCIENCE			41-46

연번	저자	논문제목	학술지명	권	호	쪽
48	G. Torlai, G. McKeown, P. Marek , R. Filip, G. De Chiara, M. G. A. Paris, F. L. Semiao , Hyunseok Jeong , and M. Paternostro	Non-classicality tests with entangled coherent states	PROCEEDINGS OF THE FIRST INTERNATIONAL WORKSHOP ON ENTANGLED COHERENT STATES AND ITS APPLICATION TO QUANTUM INFORMATION SCIENCE			121-129
49	Sohn, CH (Sohn, C. H.)/ Kim, HS (Kim, H. -S.)/ Qi, TF (Qi, T. F.)/ Jeong, DW (Jeong, D. W.)/ Park, HJ (Park, H. J.)/ Yoo, HK (Yoo, H. K.)/ Kim, HH (Kim, H. H.)/ Kim, JY (Kim, J. -Y.)/ Kang, TD (Kang, T. D.)/ Cho, DY (Cho, Deok-Yong)/ Cao, G (Cao, G.)/ Yu,	Mixing between $J(\text{eff})=1/2$ and $3/2$ orbitals in Na_2IrO_3 : A spectroscopic and density functional calculation study	PHYSICAL REVIEW B	88	8	-
50	Boram Yoon, Weonjong Lee	Beyond the Standard Model B- parameters with $N_f=2+1$ Staggered Fermions	JOURNAL OF SUPERCOMPUTING INFORMATION	1	1	7-13
51	Shim, H/Im, M/Ko, J/Jeon, Y/Karouzos, M/Kim, SJ/Lee, HM/Papovich, C/Willmer, C/Weiner, BJ	HECTOSPEC AND HYDRA SPECTRA OF INFRARED LUMINOUS SOURCES IN THE AKARI NORTH ECLIPTIC POLE SURVEY FIELD	ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES	207		-
52	Fortin, JY (Fortin, Jean-Yves)/ Mantelli, S (Mantelli, Sophie)/ Choi, M (Choi, MooYoung)	Dynamics of interval fragmentation and asymptotic distributions	JOURNAL OF PHYSICS A-MATHEMATICAL AND THEORETICAL	46	22	-
53	Choi, C (Choi, Chulho)/ Ha, M (Ha, Meesoon)/ Kahng, B (Kahng, Byungnam)	Extended finite-size scaling of synchronized coupled oscillators	PHYSICAL REVIEW E	88	3	-
54	Kim, HJ (Kim, Hyung Joon)/ Kim, J (Kim, Jiyeon)/ Kim, TH (Kim, Tai Hoon)/ Lee, WJ (Lee, Woong-Jhae)/ Jeon, BG (Jeon, Byung-Gu)/ Park, JY (Park, Ju-Young)/ Choi, WS (Choi, Woo Seok)/ Jeong, DW (Jeong, Da Woon)/ Lee, SH (Lee, Suk Ho)/ Yu, J (Yu, Jaejun)/ No	Indications of strong neutral impurity scattering in $\text{Ba}(\text{Sn,Sb})\text{O}_3$ single crystals	PHYSICAL REVIEW B	88	12	-

연번	저자	논문제목	학술지명	권	호	쪽
55	Aasi, J (Aasi, J.)/ Abadie, J (Abadie, J.)/ Abbott, BP (Abbott, B. P.)/ Abbott, R (Abbott, R.)/ Abbott, TD (Abbott, T. D.)/ Abernathy, M (Abernathy, M.)/ Accadia, T (Accadia, T.)/ Acernese, F (Acernese, F.)	Parameter estimation for compact binary coalescence signals with the first generation gravitational-wave detector network	PHYSICAL REVIEW D	88	6	-
56	Kim, CG (Kim, Chang-Goo)/ Ostriker, EC (Ostriker, Eve C.)/ Kim, WT (Kim, Woong-Tae)	THREE-DIMENSIONAL HYDRODYNAMIC SIMULATIONS OF MULTIPHASE GALACTIC DISKS WITH STAR FORMATION FEEDBACK. I. REGULATION OF STAR FORMATION RATES	ASTROPHYSICAL JOURNAL	776	1	-
57	Sanghyun Lee, J R Zhang, S Torii, Seongil Choi, Deok-Yong Cho, T Kamiyama, Jaejun Yu, K A McEwen, and Je-Geun Park	Large in-plane deformation of RuO6 octahedron and ferromagnetism of bulk SrRuO3	JOURNAL OF PHYSICS-CONDEN SED MATTER	25	46	465601-1 -465601- 8
58	Bae, T (Bae, Taegil)/ Jang, YC (Jang, Yong-Chull)/ Jeong, H (Jeong, Hwancheol)/ Jung, C (Jung, Chulwoo)/ Kim, HJ (Kim, Hyung-Jin)/ Kim, J (Kim, Jangho)/ Kim, J (Kim, Jongjeong)/ Kim, K (Kim, Kwangwoo)/ Kim, S (Kim, Sunghee)/ Lee, W (Lee, Weonjong)/ Leem,	Neutral kaon mixing from new physics: Matrix elements in N-f=2+1 lattice QCD	PHYSICAL REVIEW D	88	7	-
59	Shim, J (Shim, Junsup)/ Lee, J (Lee, Jounghun)	DARK SECTOR COUPLING BENDS THE SUPERCLUSTERS	ASTROPHYSICAL JOURNAL	777	1	-
60	Fischer, UR (Fischer, Uwe R.)/ Xiong, B (Xiong, Bo)	Robustness of fragmented condensate many-body states for continuous distribution amplitudes in Fock space	PHYSICAL REVIEW A	88	5	-
61	Xiong, B (Xiong, Bo)/ Fischer, UR (Fischer, Uwe R.)	Interaction-induced coherence among polar bosons stored in triple-well potentials	PHYSICAL REVIEW A	88	6	-

연번	저자	논문제목	학술지명	권	호	쪽
62	Lee, SB (Lee, S. B.)/ Kim, K (Kim, K.)/ Oh, JS (Oh, J. S.)/ Kahng, B (Kahng, B.)/ Lee, JS (Lee, J. S.)	Origin of variation in switching voltages in threshold-switching phenomena of VO ₂ thin films	APPLIED PHYSICS LETTERS	102	6	-
63	Lee, JS (Lee, Jae Sung)/ Lee, SB (Lee, Shin Buhm)/ Kahng, B (Kahng, Byungnam)/ Noh, TW (Noh, Tae Won)	Two opposite hysteresis curves in semiconductors with mobile dopants	APPLIED PHYSICS LETTERS	102	25	-
64	Kim, HC/Kim, S	M5-branes from gauge theories on the 5-sphere	JOURNAL OF HIGH ENERGY PHYSICS			-
65	Woong-Tae Kim	Magnetohydrodynamic Simulations of Barred Galaxies	ASTRONOMICAL SOCIETY OF THE PACIFIC CONFERENCE SERIES	474		78-83
66	Jangho Kim, Jongjeong Kim, Weonjong Lee, Boram Yoon	Non-perturbative Renormalization of Bilinear Operators with Improved Staggered Quarks	PROCEEDINGS OF SCIENCE	Lattic e 2013	308	-
67	Taegil Bae, Yong-Chull Jang, Hwancheol Jeong, Jangho Kim, Jongjeong Kim, Kwangwoo Kim, Seonghee Kim, Weonjong Lee, Jaehoon Leem, Jeonghwan Pak, Sungwoo Park, Chulwoo Jung, Hyung-Jin Kim, Stephen R. Sharpe, Boram Yoon	Update on BK and eK with staggered quarks	PROCEEDINGS OF SCIENCE	Lattic e 2013	476	-
68	Taegil Bae, Yong-Chull Jang, Hwancheol Jeong, Jangho Kim, Jongjeong Kim, Kwangwoo Kim, Seonghee Kim, Weonjong Lee, Jaehoon Leem, Hyung-Jin Kim, Chulwoo Jung, Stephen R. Sharpe, Boram Yoon	Beyond the Standard Model B-parameters with improved staggered fermions in N _f =2+1 QCD	PROCEEDINGS OF SCIENCE	Lattic e 2013	473	-

연번	저자	논문제목	학술지명	권	호	쪽
69	Hwancheol Jeong, Weonjong Lee, Jeonghwan Pak, Kwang-jong Choi, Sang-Hyun Park, Jun-sik Yoo, Joo Hwan Kim, Joungjin Lee, Young Woo Lee	Performance of Kepler GTX Titan GPUs and Xeon Phi System	PROCEEDINGS OF SCIENCE	Lattice 2013	423	-
70	Nigel Cundy, Yongmin Cho, Weonjong Lee	Confinement From The Gauge Invariant Abelian Decomposition	PROCEEDINGS OF SCIENCE	Lattice 2013	471	-
71	Yong-Chull Jang, Jon A. Bailey, Weonjong Lee, Carleton DeTar, Mehmet B. Oktay, Andreas S. Kronfeld	Optimization of the Oktay-Kronfeld Action Conjugate Gradient Inverter	PROCEEDINGS OF SCIENCE	Lattice 2013	030	-
72	Jon A. Bailey, Jongjeong Kim, Weonjong Lee, Hyung-Jin Kim, Boram Yoon	Flavored pions and kaons at next-to-leading order in mixed-action staggered chiral perturbation theory	PROCEEDINGS OF SCIENCE	Lattice 2013	436	-
73	Choonkyu Lee, Hyunsoo Min	SL(2,R) Duality-symmetric Action for Electromagnetic Theory with Electric and Magnetic Sources	ANNALS OF PHYSICS			-
74	Sedgwick, Chris; Serjeant, Stephen; Pearson, Chris; Smail, Ian; Im, Myungshin; Oyabu, Shinki; Takagi, Toshinobu; Matsuhara, Hideo; Wada, Takehiko; Lee, Hyung Mok;	Detection of H α emission from z > 3.5 submillimetre luminous galaxies with AKARI-FUHYU spectroscopy	MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY			-
75	Lund, AP (Lund, A. P.)/ Ralph, TC (Ralph, T. C.)/ Jeong, H (Jeong, H.)	Generation of distributed entangled coherent states over a lossy environment with inefficient detectors	PHYSICAL REVIEW A	88	5	-
76	Kwon, H (Kwon, Hyukjoon)/ Jeong, H (Jeong, Hyunseok)	Violation of the Bell-Cluser-Horne-Shimony-Holt inequality using imperfect photodetectors with optical hybrid states	PHYSICAL REVIEW A	88	5	-
77	최무영[서울대학교]/최인령[서울여자대학교]	복잡계와 환기시학: 복잡성, 협동현상, 떠오름	프랑스학연구		66	321-350

연번	저자	논문제목	학술지명	권	호	쪽
78	Kim, M (Kim, Minsu)/ Jeong, D (Jeong, Daun)/ Kwon, HW (Kwon, H. W.)/ Choi, MY (Choi, M. Y.)	Information exchange dynamics of the two-dimensional XY model	PHYSICAL REVIEW E	88	5	-
79	Patton, KR (Patton, Kelly R.)/ Fischer, UR (Fischer, Uwe R.)	Ultrafast Quantum Random Access Memory Utilizing Single Rydberg Atoms in a Bose-Einstein Condensate	PHYSICAL REVIEW LETTERS	111	24	-
80	Jeong-Kyu Kim and Woong-Tae Kim	INSTABILITY OF EVAPORATION FRONTS IN THE INTERSTELLAR MEDIUM	ASTROPHYSICAL JOURNAL	779		48-62
81	Khim, S (Khim, Seunghyun)/ Lee, B (Lee, Bumsung)/ Choi, KY (Choi, Ki-Young)/ Jeon, BG (Jeon, Byung-Gu)/ Jang, DH (Jang, Dong Hyun)/ Kim, R (Kim, Rokyeon)/ Choi, ES (Choi, Eun Sang)/ Lee, S (Lee, Seongsu)/	Enhanced upper critical fields in a new quasi-one-dimensional superconductor Nb ₂ PdxSe ₅	NEW JOURNAL OF PHYSICS	15		-
82	Kim, S/Ihm, J/Choi, HJ/Son, YW	Minimal single-particle Hamiltonian for charge carriers in epitaxial graphene on 4H-SiC(0001): Broken-symmetry states at Dirac points	SOLID STATE COMMUNICATIONS	175		83-89
83	김민수[서울대학교 물리천문학부 및 Institute of Terrestrial]/최무영[서울대학교]	복잡계 현상으로서의 생명: 정보교류의 관점	과학 철학	16	2	127-150
84	Kim, YS (Kim, Yong Su)/ Kim, J (Kim, Jiyeon)/ Sohn, CH (Sohn, Chang Hee)/ Lee, SB (Lee, Shin Buhm)/ Lee, D (Lee, Daesu)/ Jeon, BC (Jeon, Byung Chul)/ Yoo, HK (Yoo, Hyang Keun)/ Noh, TW (Noh, Tae Won)	Impact of vacancy clusters on characteristic resistance change of nonstoichiometric strontium titanate nano-film	APPLIED PHYSICS LETTERS	104	1	-
85	Hyunseok Jeong, Youngrong Lim, M. S. Kim	Coarsening Measurement References and the Quantum-to-Classical Transition	PHYSICAL REVIEW LETTERS	112	1	010402-1-010402-5

연번	저자	논문제목	학술지명	권	호	쪽
86	Choi, J/Choi, MY/Yoon, BG	Driving distributions and periodic synchronization-desynchronization in driven phase oscillators	JOURNAL OF THE KOREAN PHYSICAL SOCIETY	64		11-15
87	김아람, 최무영, 전건상	Estimate of the phase transition line in the infinite-dimensional Hubbard model	JOURNAL OF THE KOREAN PHYSICAL SOCIETY	64	2	268-276
88	Nigel Cundy, Y.M. Cho, Weonjong Lee, Jaehoon Leem	The static quark potential from the gauge invariant Abelian decomposition	PHYSICS LETTERS B	729	2014	192-198
89	Kwon, HW (Kwon, H. W.)/ Choi, MY (Choi, M. Y.)	Generalized hydromechanical model for stomatal responses to hydraulic perturbations	JOURNAL OF THEORETICAL BIOLOGY	340		119-130
90	Cho, MW (Cho, Myoung Won)/ Choi, MY (Choi, M. Y.)	A model for the receptive field of retinal ganglion cells	NEURAL NETWORKS	49		51-58
91	Lim, Seunghwan; Lee, Jounghun	An Analytic Model for the Supercluster Mass Function	ASTROPHYSICAL JOURNAL	783	1	39-
92	Shim, Junsup; Lee, Jounghun; Li, Baojiu	Massive Gravity Wrapped in the Cosmic Web	ASTROPHYSICAL JOURNAL	784	1	84-
93	Lee, Jounghun	The effect of primordial anti-biasing on the local measurement of the key cosmological parameters	MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY			-
94	고세건, 이금숙, 최무영, Jean-Yves Fortin	Emergence of criticality in the transportation passenger flow: scaling and renormalization in the Seoul bus system	PLOS ONE	9	3	89980-

학술행사

행사명	개최일시	장소
Gravitational Waves: New Frontier	2013.01.16-2013.01.18	서울대학교
KIAS-SNU Physics Winter Camp 2013	2013.01.20-2013.01.27	평창 휘닉스파크
APCTP-SNU-KAIST Joint Journal Club on Particle Physics and Cosmology	2013.05.10-2013.05.11	서울대학교 56동
The 37th Johns Hopkins Workshop, New Perspectives in String Theory	2013.06.17-2013.06.21	서울대학교 자연과학대학 대강당
IUPAP Statphys25 conference	2013.07.22-2013.07.26	서울대학교 문화관
19th International Summer Institute on Phenomenology of Elementary Particles and Cosmology (SI2013)	2013.08.17-2013.08.23	지리산 한화리조트

세미나

개최일시	제목	연사 / 소속
2013.01.10	Theory of t2g electron-gas Rashba interactions	Guru Khalsa / The University of Texas at Austin
2013.01.10	Experimental investigation of thermal transport in graphene and hexagonal boron nitride	조인선 Graduate Research Assistant / The University of Texas at Austin
2013.02.03	Higher Level of ab initio Computer Simulation for Materials Design	Yoshiyuki Kawazoe 교수 / Tohoku University
2013.02.12	Research on Energy-related Materials in Uppsala University	Prof. Rajeev Ahuja / Uppsala University
2013.02.18	A charge-density-wave reconstruction on the Ga N(10-1-1)surface	김한철 교수 / 숙명여자대학교
2013.03.15	Physical Properties of Metal Nanocatalysts on Oxides: Hydroxyl Effects	유병덕 교수 / 서울시립대학교
2013.03.14	From gamma-ray lines at Fermi LAT to collider searches at the LHC	이현민 박사 / KIAS
2013.03.14	Cosmological moduli problem in large volume scenario and thermal inflation	박완일 박사 / KIAS
2013.04.01	Many-electron effects on materials properties: local magnetic moments and spin	최상국 교수 / University of California, Berkeley
2013.04.09	Double disk darkmatter의 가능성을 생각할 때 얻을 수 있는 가장 강력한 실험제약에 대한 것과 darkstar의 형성을 포함 우주론 전반에 미칠 수 있는 영향	Prof. Stefano Scopel / 서강대학교
2013.04.18	Insensitive Unification of Gauge Couplings, Muon g-2 and Higgs Decays	Prof. Dermisek Radowan / Indiana University
2013.04.18	Photophysics of graphene, carbon nanotubes, and topological insulators: Symmetry and many-electron effects	Steven G. Louie Prof. / University of California at Berkeley
2013.04.13	Fluctuation theorems and Entropy production in stochastic processes with odd-parity variables	박형규 교수 / 고등과학원
2013.04.13	Coevolution and correlated multiplexity in multiplex networks	고광일 교수 / 고려대학교
2013.04.13	A two-fold advantage of sex	박수찬 교수 / 가톨릭대학교
2013.04.13	Crossover in the fluctuation scaling of evolving regulatory networks	이덕선 교수 / 인하대학교

개최일시	제목	연사 / 소속
2013.04.13	Classification of transport backbone of complex networks	육순형 부교수 / 경희대학교
2013.04.13	Data Science: More than Big-Data	정하웅 교수 / 카이스트
2013.04.13	Griffiths phase in the Susceptible-Infected-Susceptible model on complex networks	노재동 교수 / 서울시립대학교
2013.04.13	Kinetics of triplex-duplex transitions in DNA	이남경 교수 / 세종대학교
2013.04.13	Extended Finite-Size Scaling of Synchronized Oscillators and Beyond	하미순 교수 / 조선대학교
2013.04.29	Origin of large oscillatory forces observed in nanoscopic water menisci: chain-like water structures and their phase transirions	김병일 교수 / Boise State University
2013.04.23	Microscopic modelling circadian and bursty pattern of human activities	김진홍 팀장 / 원더피플
2013.05.10	Superhorizon perturbation and CMB	서민석 박사 / APCTP
2013.05.11	Composite Higgs and composite quarks	Prof. Thomas Flacke / KAIST
2013.05.11	Spin and parity determination of Higgs	최성렬 교수 / 전북대학교
2013.05.20	Scale bridging of Friction law: From atoms to Leonardo da Vinci	차문현 post-doctor / Brown University
2013.06.07	Materials under High Pressure : A computational point of view	Rajeev Ahuja Prof. / Uppsala University
2013.06.12	Facets of Information Theory	김영한 교수 / UCSD
2013.06.14	Suppressing isocurvature perturbations of QCD axion dark matter	정광식 박사 / Tohoku University
2013.08.02	Exploring Surface-Bound Molecular Photoswitching and Graphene as a Promising Platform for Functional Molecules	조종원 박사 / California Institute of Technology
2013.08.12	Universal Information Processing	김영한 교수 / UC San Diego
2013.08.07	Nonlocal product rules for percolation	Jose S. Andrade Prof. / U federal do ceara

개최일시	제목	연사 / 소속
2013.08.07	Crackling Noise in Fractional Percolation	Dr. Jan Nagler / MPI
2013.08.07	Explosive collapse of coupled networks	Prof. Hans J. herrmann / ETHZ
2013.08.07	Explosive epidemics	Dr. Nuno Araujo / ETHZ
2013.08.07	Explosive percolation in the brain	Prof. Hernan Makse / CUNY
2013.08.29	The dynamical mean field theory study of rare-earth-element nickelates	Dr. Hyowon Park / Columbia University
2013.09.10	Spin and orbital caloritronics in a mesoscopic quantum dot system	임종수 박사 / 고등과학원
2013.09.04	Tight-binding molecular dynamics simulation method	Dr. Cai-Zhuang Wang / Ames Lab at Iowa State University
2013.09.04	Gutzwiller Density Functional Theory	Dr. Cai-Zhuang Wang / Ames Lab at Iowa State University
2013.09.09	Novel Materials Prediction using First Principle Calculations and Experimental Synthesis	김덕영 박사 / arnegie Institution of Washington
2013.09.12	Fundamental understanding of ab initio computer simulation for materials design and TOMBO program	Prof. Yoshiyuki Kawazoe / Tohoku University
2013.09.12	Electroweakino blind spots at colliders	정성훈 박사 / KIAS
2013.09.24	Brain Modeling and Clinical Data Analysis	김종원 박사 / University of Sydney
2013.09.27	East meets West - the influence of perspective on scientific writing	Brooks,Janie / HS
2013.09.30	Entanglement spreading in isolated quantum systems	김형원 / Princeton University
2013.10.09	Theoretical Advancement in (1) Nano materials (2) Photovoltaics	Marvin L. Cohen Prof. / University of California at Berkeley

개최일시	제목	연사 / 소속
2013.10.22	Physical Properties and Applications of Carbon Nanofoam Structure with Negative Gaussian	권영균 교수 / 경희대학교
2013.10.24	Hidden Structural Order in Orthorhombic Tantalum Pentoxide	이성훈 박사 / 기초과학연구원
2013.09.13-2013.10.26	an Introduction, Kinematics in the expanding Universe	최기영 연구교수 / 부산대학교
2013.11.11	Cascading processes in complex networks: From systemic risk in banking networks to the collapse of Frierster	Frank Schweitzer 교수 / ETH Zurich, Switzerland
2013.11.19	Fivebranes from the plane wave matrix model	Dr. Shinji Shimasaki / Kyoto University
2013.11.29	Non-Lagrangian Theories from Brane Junctions	Dr. Futoshi Yagi / KIAS
2013.11.15	Approach to brain activities based on a computational model of cortical functions	조명원 교수 / 성신여자대학교
2013.11.18	News and views in discontinuous phase transitions	Dr. Jan Nagler / Max Planck Institute
2013.11.19	Carrier transport and screening in graphene and topological insulator surface states	Prof. Shaffique Adam / Yale-NUS College
2013.12.05	Flavor and CP	김충선 교수 / 연세대학교
2013.12.03	Mechanical properties of nanomaterials	Prof. Kyung-Suk Kim / Brown University
2013.12.06	Hilbert series of instanton moduli spaces and beyond	성락경 박사 / KIAS
2013.12.09	Pressure Induced Superconductivity in Materials	Prof. Rajeev Ahuja / Uppsala University
2013.12.11	Molecular dynamics simulation studies of Gatekeeper-Inhibitor Interactions :Toward Molecular Basis of the Receptor Kinase Inhibitor Selectivity Profile	박지용 박사 / UCLA

개최일시	제목	연사 / 소속
2013.12.13	Fine tuning of CMSSM and CNMSSM in Bayesian analysis	김도윤 박사 / Monash University
2013.12.16	Laplacian-driven dynamics in complex networks	이덕선 교수 / 인하대학교
2013.12.27	Vector boson excitations near deconfined quantum critical points	허예진 박사 / Harvard University