

TM
P59/SJ

第三種郵便物認可 J. Phys. Soc. Jpn., Vol. 83, No. 10 平成 26 年 10 月 15 日発行 毎月 1 回 15 日発行 ISSN 0031-9015

JOURNAL
OF THE
PHYSICAL
SOCIETY
OF
JAPAN

2014 10 October

VOL. 83

<http://jpsj.jps.jp/>

JOURNAL OF THE PHYSICAL SOCIETY OF JAPAN

Volume 83, Number 10, October 2014

CONTENTS

■ LETTERS

Condensed matter: electronic structure and electrical, magnetic, and optical properties

- 103701 Almost Perfect Frustration in the Dimer Magnet Ba₂CoSi₂O₆Cl₂ (*5 pages*) Hidekazu Tanaka, Nobuyuki Kurita, Makiko Okada, Eiji Kunihiro, Yutaka Shirata, Kotaro Fujii, Hidehiro Uekusa, Akira Matsuo, Koichi Kindo, Hiroyuki Nojiri
- 103702 NaCuMoO₄(OH) as a Candidate Frustrated J_1 - J_2 Chain Quantum Magnet (*5 pages*) Kazuhiro Nawa, Yoshihiko Okamoto, Akira Matsuo, Koichi Kindo, Yoko Kitahara, Syota Yoshida, Shohei Ikeda, Shigeo Hara, Takahiro Sakurai, Susumu Okubo, Hitoshi Ohta, Zenji Hiroi
- 103703 Superconductivity at 3.7 K in Ternary Silicide Li₂IrSi₃ (*4 pages*) Daigorou Hirai, Rui Kawakami, Oxana V. Magdysyuk, Robert E. Dinnebier, Alexander Yaresko, Hidenori Takagi
- 103704 Quantum Spin-Liquid Behavior in the Spin-1/2 Random-Bond Heisenberg Antiferromagnet on the Kagome Lattice (*4 pages*) Hikaru Kawamura, Ken Watanabe, Tokuro Shimokawa
- 103705 Ru-NQR Study for Novel Phase Transition in CeRu₂Al₁₀ (*5 pages*) Masahiro Matsumura, Naoya Tomita, Junichiro Matsuoka, Yasuki Kishimoto, Harukazu Kato, Kentaro Kitagawa, Takashi Nishioka, Hiroshi Tanida, Masafumi Sera
- 103706 Delocalization of Surface Dirac Electrons in Disordered Weak Topological Insulators (*4 pages*) Yositake Takane
- 103707 Cooperative Order in the Weakly Magnetic Domain of LaFeAsO_{1-x}F_x near the Doping Phase Boundary (*5 pages*) Masatoshi Hiraishi, Ryosuke Kadono, Masanori Miyazaki, Ichihiro Yamauchi, Akihiro Koda, Kenji M. Kojima, Motoyuki Ishikado, Shuichi Wakimoto, Shin-ichi Shamoto
- 103708 *T/B* Scaling in β -YbAlB₄ (*5 pages*) Shinji Watanabe, Kazumasa Miyake
- 103709 Ising-Type Ferromagnetic Ground State Driven by Anisotropic *c-f* Hybridization in CeRu₂Al₂B (*4 pages*) Haruki Matsuno, Hisashi Kotegawa, Eiichi Matsuoka, Yo Tomiyama, Hitoshi Sugawara, Hideki Tou

■ FULL PAPERS

General

- 104001 *N*th-Order Rogue Waves to Nonlinear Schrödinger Equation Revisited: A Variable Separation Technique (*4 pages*) Gui Mu, Zhenyun Qin
- 104002 Higher-Order Modes of Modulation Instability in Bose-Einstein Condensates with a Time-Dependent Three-Dimensional Parabolic Potential (*9 pages*) Feng-De Zong, Yu-Sheng Yan, Sen-Ting Shen
- 104003 Quantum Correlations of Two Superconducting Charge Qubits in a Magnetic Field (*5 pages*) Sujit Sarkar
- 104004 Observed Measures and Fluctuations in Dissipative Infinite Ergodic Systems: Randomization Theory for the Infinite-Modal Maps with Ant-Lion Property (*10 pages*) Masaki Nakagawa, Yoji Aizawa

Electromagnetism, optics, acoustics, heat transfer, classical mechanics, and fluid mechanics

- 104401 Localized Waves on Continuous Wave Background in a Two-Mode Nonlinear Fiber with High-Order Effects (*7 pages*) Li-Chen Zhao, Zhan-Ying Yang, Liming Ling
- 104402 Four-Photon Imaging with Thermal Light (*7 pages*) Feng Wen, Xinxin Xue, Xun Zhang, Chenzhi Yuan, Jia Sun, Jianping Song, Yanpeng Zhang
- 104403 Resolution and Contrast Enhancement of Correlated Imaging in Photon Counting Regime (*6 pages*) Feng Wen, Xun Zhang, Chenzhi Yuan, Peiying Li, Huayan Lan, Bingzheng Du, Yanpeng Zhang

Gases, plasmas, electric discharges, and beams

- 104501 A Pulsing Argon Plasma Plume Excited by a Direct-Current Voltage (*5 pages*) Xuechen Li, Wenting Bao, Pengying Jia, Chunyan Zhang, Jiyuan Li

Condensed matter: structure and mechanical and thermal properties

- 104601 First-Principles Prediction on Long-Range Ferromagnetism Induced by Vacancies in SnO₂ Nanosheet (*7 pages*) Hang-xing Luan, Chang-wen Zhang, Run-wu Zhang, Wei-xiao Ji, Pei-ji Wang
- 104602 Atomistic Breaking Processes via Electromigration in Platinum Nanocontacts (*4 pages*) Tokushi Kizuka, Satoshi Kodama
- 104603 Network Analysis of Free Energy Landscape of Metastable States of Hexatic Smectic B Liquid Crystal (*6 pages*) Keiko M. Aoki
- 104604 Nambu–Goldstone and Higgs Modes in the Kondo Insulator (*8 pages*) Keiichi Ohara, Katsuou Hanzawa
- Condensed matter: electronic structure and electrical, magnetic, and optical properties**

- 104701 Direct Observation of the Ground State of a 1/3 Quantum Magnetization Plateau in SrMn₃P₄O₁₄ Using Neutron Diffraction Measurements (*5 pages*) Masashi Hase, Vladimir Yu. Pomjakushin, Andreas Dönni, Tao Yang, Rihong Cong, Jianhua Lin
- 104702 Electronic Phase Diagram of SrFe₂(As_{1-x}P_x)₂: Effect of Structural Dimensionality (*6 pages*) Tatsuya Kobayashi, Shigeki Miyasaka, Setsuko Tajima, Noriko Chikumoto
- 104703 Strong Electronic Correlations in Iron Pnictides: Comparison of Optical Spectra for BaFe₂As₂-Related Compounds (*5 pages*) Masamichi Nakajima, Shigeyuki Ishida, Takahide Tanaka, Kunihiro Kihou, Yasuhide Tomioka, Taku Saito, Chul-Ho Lee, Hideto Fukazawa, Yoh Kohori, Teruhisa Kakeshita, Akira Iyo, Toshimitsu Ito, Hiroshi Eisaki, Shin-ichi Uchida
- 104704 Change in Pr-4f Ground State in Pr_{1-x}Y_xCoO₃ (*5 pages*) Yoshihiko Kobayashi, Yuuki Terakado, Kichizo Asai
- 104705 Molecular Dependence of the Large Seebeck Effect in τ -Type Organic Conductors (*5 pages*) Hirohito Aizawa, Kazuhiko Kuroki, Harukazu Yoshino, George A. Mousdis, George C. Papavassiliou, Keizo Murata
- 104706 Kondo Effect of a Jahn–Teller Ion Vibrating in a Cubic Anharmonic Potential (*7 pages*) Takashi Hotta
- 104707 Influence of Electron Doping on Magnetic Order in CeRu₂Al₁₀ (*5 pages*) Riki Kobayashi, Koji Kaneko, Kotaro Saito, Jean-Michel Mignot, Gilles André, Julien Robert, Shuichi Wakimoto, Masaaki Matsuda, Songxue Chi, Yoshinori Haga, Tatsuma D. Matsuda, Etsuji Yamamoto, Takashi Nishioka, Masahiro Matsumura, Hiroshi Tanida, Masafumi Sera
- 104708 Indirect Attractions between Superionic Di-interstitial Protons on Mid-Oxygens in Water at Extreme Conditions: First-Principles Molecular Dynamics Study (*10 pages*) Kazuo Tsumuraya, Tomofumi Tasaka, Hisashi Nagayama, Mary I. Tsumuraya, Masato Tsumuraya
- 104709 Axionic Antiferromagnetic Insulator Phase in a Correlated and Spin–Orbit Coupled System (*7 pages*) Akihiko Sekine, Kentaro Nomura
- 104710 Anomalous Behavior of the Magnetization Process of the $S = 1/2$ Kagome-Lattice Heisenberg Antiferromagnet at One-Third Height of the Saturation (*7 pages*) Hiroki Nakano, Tōru Sakai
- 104711 Phasons and Excitations in Skyrmion Lattice (*15 pages*) Gen Tatara, Hidetoshi Fukuyama
- 104712 Ionic Model Approach to Battery Voltage of NaMO₂ (*4 pages*) Wataru Kobayashi, Yutaka Moritomo
- Cross-disciplinary physics and related areas of science and technology**

- 104801 Verification of Effectiveness of a Probabilistic Algorithm for Latent Structure Extraction Using an Associative Memory Model (*8 pages*) Kensuke Wakasugi, Tatsu Kuwatani, Kenji Nagata, Hideki Asoh, Masato Okada

■ SHORT NOTES

- 105001 Hydrostatic Pressure Studies on Parent Phase SrFBiS₂ of BiS₂-Based Superconducting Family (*2 pages*) Rajveer Jha, Brajesh Tiwari, V. P. S. Awana
- 105002 Structural Properties of Fe₂O₃ at High Temperatures (*2 pages*) Masaaki Misawa, Satoshi Ohmura, Fuyuki Shimojo

■ ERRATA

- 108001 Erratum: “Drag Coefficient of a Spherical Droplet Immersed in a Near-Critical Binary Fluid Mixture” [J. Phys. Soc. Jpn. **83**, 024401 (2014)] (*1 page*) Youhei Fujitani