

RM  
p59/sj

3日 第三種郵便物認可 J. Phys. Soc. Jpn., Vol. 83, No. 12 平成 26 年 12 月 15 日発行 毎月 1 回 15 日発行 ISSN 0031-9015

JOURNAL  
OF THE  
PHYSICAL  
SOCIETY  
OF  
JAPAN

2014

**12**

December

**VOL. 83**

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

# JOURNAL OF THE PHYSICAL SOCIETY OF JAPAN

Volume 83, Number 12, December 2014

## CONTENTS

### ■ LETTERS

#### General

- 123001 Cavity-Loss Induced Plateau in Coupled Cavity QED Array (4 pages) Tatsuro Yuge, Kenji Kamide, Makoto Yamaguchi, Tetsuo Ogawa, Ran Huang, Chong Chen
- 123002 Phase Transition of Ferromagnetic Ising Spins on Husimi Lattice of Variable Unit Ensemble (3 pages)
- 123003 Momentum Conservation Law in Symplectic Integrators for Partial Differential Equations (4 pages) Narimasa Sasa

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

- 123701 Synthesis Conditions and Magnetic Properties of  $\text{Sr}_2\text{CrO}_4$  with the  $\text{K}_2\text{NiF}_4$ -Type Structure (4 pages) Hiroya Sakurai
- 123702 Probing Strongly Correlated  $4f$ -Orbital Symmetry of the Ground State in Yb Compounds by Linear Dichroism in Core-Level Photoemission (5 pages) Takeo Mori, Satoshi Kitayama, Yuina Kanai, Sho Naimen, Hidenori Fujiwara, Atsushi Higashiya, Kenji Tamasaku, Arata Tanaka, Kensei Terashima, Shin Imada, Akira Yasui, Yuji Saitoh, Kohei Yamagami, Kohei Yano, Taiki Matsumoto, Takayuki Kiss, Makina Yabashi, Tetsuya Ishikawa, Shigemasa Suga, Yoshichika Ōnuki, Takao Ebihara, Akira Sekiyama
- 123703 Photo-Induced Dynamics in Charge-Frustrated Systems (4 pages) Hiroshi Hashimoto, Hiroaki Matsueda, Hitoshi Seo, Sumio Ishihara
- 123704 Odd- and Even-Frequency Superconductivities Mediated by Ferromagnetic Magnons (5 pages) Hiroshi Funaki, Hiroshi Shimahara

#### Cross-disciplinary physics and related areas of science and technology

- 123801 Heterogeneous Chain Dynamics in a Supercooled Polymer Melt: Relaxation Mode Analysis Study (5 pages) Nobuyuki Iwaoka, Hiroshi Takano

### ■ FULL PAPERS

#### General

- 124001 Density Modulations Associated with the Dynamical Instability in the Bose-Hubbard Model (5 pages) Rui Asaoka, Hiroki Tsuchiura, Makoto Yamashita, Yuta Toga
- 124002 Bayesian Image Segmentations by Potts Prior and Loopy Belief Propagation (11 pages) Kazuyuki Tanaka, Shun Kataoka, Muneki Yasuda, Yuji Waizumi, Chiou-Ting Hsu
- 124003 Mode Selection Rules for Two-Delay Systems: Dynamical Explanation for the Function of the Register Hole on the Clarinet (14 pages) Kin'ya Takahashi, Kana Goya, Saya Goya
- 124004 Oscillations in Spurious States of the Associative Memory Model with Synaptic Depression (8 pages) Shin Murata, Yosuke Otsubo, Kenji Nagata, Masato Okada
- 124005 Stochastic Modeling on Fragmentation Process over Lifetime and Its Dynamical Scaling Law of Fragment Distribution (6 pages) Shin-ichi Ito, Satoshi Yukawa

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

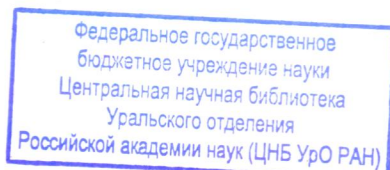
- 124401 A Three-Dimensionally Isotropic and Perfectly Vacuum-Impedance-Matched Negative-Index Material (8 pages) Jian Qi Shen
- 124402 Third-Order Self-Imaging with Thermal Light (6 pages) Feng Wen, Xun Zhang, Chenzhi Yuan, Xin Yao, Yanpeng Zhang, Weiqiang Ding

#### Gases, plasmas, electric discharges, and beams

- 124501 White-Eye Hexagonal Pattern in Dielectric Barrier Discharge (4 pages) Yang Zhao, Lifang Dong, Yongjie Wang, Hongyan Fu, Yanan Gao

#### Condensed matter: structure and mechanical and thermal properties

- 124601 Neutron and X-ray Scattering Studies of  $\text{Rb}_2\text{CoCl}_4$  and Successive Phase Transition in  $\text{A}_2\text{BX}_4$ -type Crystals (6 pages) Hirotake Shigematsu, Katsura Nishiyama, Yukihiko Kawamura, Hiroyuki Mashiyama
- 124602 Local Clusters in a Distorted Rocksalt GeTe Crystal Found by X-ray Fluorescence Holography (8 pages) Shinya Hosokawa, Naohisa Happo, Shinya Senba, Tōru Ozaki, Tomohiro Matsushita, Akihide Koura, Fuyuki Shimojo, Kouichi Hayashi



- 124603 Quantum Phase Transition in One-Dimensional Commensurate Frenkel–Kontorova Model (6 pages) Yongjun Ma, Jiaxiang Wang, Xinye Xu, Qi Wei, Sabre Kais
- Condensed matter: electronic structure and electrical, magnetic, and optical properties**
- 124701 Efficient Control of the Rashba Effective Magnetic Field Using Acceptor-Doped Quantum Wells (6 pages) Daichi Yamamoto, Takuma Tsuchiya
- 124702 Impurity Effect on the Inter-Chain Dielectric Response of the CDW Condensate in  $K_{0.3}MoO_3$  (4 pages) Makoto Maki, Tomoki Inoue, Hitoshi Tobata, Masafumi Shu-nan, Terukazu Nishizaki, Fusao Ichikawa
- 124703 Resonating-Valence-Bond Liquid in Low Dimensions (20 pages) Fusayoshi J. Ohkawa
- 124704 Roles of Potential Gradient and Electrode Bandwidth on Negative Differential Resistance in One-Dimensional Band Insulator (4 pages) Yasuhiro Tanaka, Kenji Yonemitsu
- 124705 Effect of Magnetic Field on Spin Excitations in the Kondo Lattice Antiferromagnet (5 pages) Ryouzuke Shiina
- 124706 Model Selection of  $NiGa_2S_4$  Triangular Lattice by Bayesian Inference (5 pages) Hikaru Takenaka, Kenji Nagata, Takashi Mizokawa, Masato Okada
- 124707 Study on Multiplet Energies of  $V^{2+}$ ,  $Cr^{3+}$ , and  $Mn^{4+}$  in MgO Host Crystal Based on First-Principles Calculations with Consideration of Lattice Relaxation (6 pages) Mega Novita, Kazuyoshi Ogasawara
- 124708 Thermoelectric and Transport Properties of Highly Conducting Two-Dimensional Delafossite:  $PdRhO_2$  (4 pages) Kyoo Kim, Junwon Kim, Byung Il Min
- 124709 Energetics and Electronic Structures of Carbon Nanotubes Encapsulating Polycyclic Aromatic Hydrocarbon Molecules (6 pages) Shota Kigure, Yoko Iizumi, Toshiya Okazaki, Susumu Okada
- 124710 Crossover from a Low-Temperature Heavy-Quasiparticle State to a High-Temperature Local-Moment State in the Heavy-Fermion System (6 pages) Ei Nagira, Shohei Fujita, Tetsuya Mutou
- 124711 Magnetism-Driven Electric Polarization of Multiferroic Quasi-One-Dimensional  $Ca_3CoMnO_6$ : First-Principles Study Using Density Functional Theory (5 pages) Miho Nishida, Fumiyuki Ishii, Mineo Saito
- 124712 Effect of the  $RuO_6$  Octahedron Rotation at the  $Sr_2RuO_4$  Surface on Topological Property (7 pages) Yoshiki Imai, Katsunori Wakabayashi, Manfred Sigrist
- 124713 First-Principles Study on Structural and Electronic Properties of  $\alpha$ -S and Na-S Crystals (8 pages) Hiroyoshi Momida, Tomoki Yamashita, Tamio Oguchi
- 124714 Stress Effects on  $nP$  Yellow Excitons in  $Cu_2O$  Thin Films Recrystallized Epitaxially in a Sample Gap between Paired MgO Substrates (9 pages) Kazunori Iwamitsu, Shingo Aihara, Akinobu Ota, Fusao Ichikawa, Tomoshige Shimamoto, Ichiro Akai
- 124715 Anisotropic Electron–Phonon Coupling in Rb-Intercalated Bilayer Graphene (5 pages) James Kleeman, Katsuaki Sugawara, Takafumi Sato, Takashi Takahashi
- 124716 Effective Model for Massless Dirac Electrons on a Surface of Weak Topological Insulators (7 pages) Takashi Arita, Yositake Takane
- Cross-disciplinary physics and related areas of science and technology**
- 124801 Quantum Dynamics Study on the Effects of Vibration, Translational Energy and Incident Angle on  $H_2$  Adsorption on a Defective Pt(111) Surface (5 pages) Michelle T. Natividad, Nelson B. Arboleda, Jr., Hideaki Kasai

## ■ SHORT NOTES

- 125001 Flux Phase in Bilayer  $t$ - $J$  Model (2 pages) Kazuhiro Kuboki

## ■ ERRATA

- 128001 Erratum: “Spin and Chiral Orderings of Frustrated Quantum Spin Chains” [J. Phys. Soc. Jpn. **68**, 3185 (1999)] (1 page) Makoto Kaburagi, Hikaru Kawamura, Toshiya Hikihara
- 128002 Erratum: “Ground State Phase Diagram of Frustrated  $S = 1$   $XXZ$  Chains: Chiral Ordered Phases” [J. Phys. Soc. Jpn. **69**, 259 (2000)] (1 page) Toshiya Hikihara, Makoto Kaburagi, Hikaru Kawamura, Takashi Tonegawa
- 128003 Erratum: “Ground-State Phase Diagram of Frustrated Antiferromagnetic  $S = 1$  Chain with Uniaxial Single-Ion-Type Anisotropy” [J. Phys. Soc. Jpn. **71**, 319 (2002)] (1 page) Toshiya Hikihara