Symposium B-4

強相関機能材料の進展と挑戦

Challenges and progress in strongly correlated functional materials

12月9日（水）
December 9（Wed.）
産業貿易センタービル Room A（2F）
INDUSTRY & TRADE CENTER, Room A（2F）

オーガナイザー：
代表オーガナイザー
山浦　一成（物質・材料研究機構）
連絡オーガナイザー
山浦　一成（物質・材料研究機構）
オーガナイザー
辻本　吉廣（物質・材料研究機構）
Gang WANG（IOP/CAS）
Ying SUN（Beihang Univ）

Organizers:
Representative
Kazunari YAMAURA（National Institute for Materials Science）
Correspondence
Kazunari YAMAURA（National Institute for Materials Science）
Organizer
Yoshihiro TSUJIMOTO（National Institute for Materials Science）
Gang WANG（IOP/CAS）
Ying SUN（Beihang Univ）

午後の部 1
Afternoon Oral Session Part 1

Chair：Kazunari YAMAURA（NIMS）

13:00-13:25　Keynote　B4-K9-001
Novel Properties in Iron Chalcogenides: from Anderson localization to geometrically frustrated magnetism

Xiaolong CHEN[1,2]（[1]Institute of Physics, Chinese Academy of Sciences, Beijing 100190, [2]Collaborative Innovation Center of Quantum Matter, Beijing 100190）

13:25-13:45　Invited　B4-I9-002
ローレンツ電子顕微鏡を用いた磁気スキルミオンの実空間観察 / Real Space Observation of Magnetic Skyrmions Using Lorentz Transmission Electron Microscopy

長尾　全寛[1]、肖　英紀[2]、山崎　淳司[1]、木本　浩司[3]（[1]早稲田大学創造理工学部、[2]秋田大学理工学部、[3]物質・材料研究機構　表界面構造・物性ユニット）

Masahiro NAGAO[1], Yong-gi SO[2], Atsushi YAMAZAKI[1], Koji KIMOTO[3]（[1]School of Creative Science and Engineering, Waseda University, [2]Faculty of Engineering Science, Akita University, [3]Surface Physics and Structure Unit, National Institute for Materials Science）

13:45-14:05　Invited　B4-I9-003
Crystal Chemistry and Physics of Double-Perovskites with Small Cations at the A Site

Wei YI[1,2], Alexei A BELIK[2]（[1]Institute of Physics and Beijing National Laboratory for Condensed Matter Physics, Chinese Academy of Sciences, Beijing, China, [2]International Center for Materials Nanoarchitectonics（WPI-MANA）, National Institute for Materials Science（NIMS）, Tsukuba, Japan）

14:05-14:25　Invited　B4-I9-004
新規擬一次元モリブデン酸化物の結晶構造と磁気的性質 / Crystal Structures and Magnetic Properties of New Quasi-One-Dimensional Molybdenum Oxides

分島　亮、三浦　雅之、日夏　幸雄（北海道大学大学院理学研究院）

Makoto WAKESHIMA, Masayuki MIURA, Yukio HINATSU（Graduate School of Science, Hokkaido University）

14:25-14:35　B4-O9-005
Magnetic properties of Mn-doped SrOsO3

Yahua YUAN[1,2], Kazunari YAMAURA[1,2]（[1]Superconducting Properties Unit, National Institute for Materials Science, [2]Graduate School of Chemical Sciences and Engineering, Hokkaido University）

14:35 ～ 14:45　Short break

午後の部 2
Afternoon Oral Session Part 2

Chair：Cong WANG（Beihang University）

14:45-15:10　Keynote　B4-K9-006
逆ペロフスカイト型マンガン窒化物の磁気体積効果 / Magnetovolume Effects of Antiperovskite Manganese Nitrides

竹中　康司（名古屋大学大学院工学研究科）

Koshi TAKENAKA（Department of Applied Physics, Nagoya University）

15:10-15:30　Invited　B4-I9-007
強相関磁性材料に隠された顕著なエネルギー関連機能性 / Remarkable energy-related functionalities hidden in strongly-correlated magnetic materials

本橋　輝樹（神奈川大学工学部物質生命化学科）

Teruki MOTOHASHI（Department of Materials and Life Chemistry, Kanagawa University）

15:30-15:50　Invited　B4-I9-008
カゴメ格子反強磁性体のフラストレート磁性 / Frustrated Magnetism of Kagome Lattice Antiferromagnet

吉田　紘行（北海道大学大学院理学研究院）

Hiroyuki YOSHIDA（Hokkaido University, Faculty of Science）

15:50-16:10　Invited　B4-I9-009
The effects of strain and spin orbital coupling on electronic structure of oxide materials

Weichang HAO（Beihang University）

16:10-16:20　B4-O9-010
Tuning magnetic structures and corresponding thermal expansion in antiperovskite Mn3XN（X=Ni, Zn）compounds

Sihao DENG[1)], Ying SUN[1)], Lei WANG[1)], Hui WU[2)], Qingzhen HUANG[2)], Kewen SHI[1)], Pengwei HU[1)], Muhammad IMRAN MALIK[1)], Xiaoyun ZHANG[1)], Cong WANG[1)] ([1)]Center for Condensed Matter and Materials Physics, Department of Physics, Beihang University, Beijing 100191, People's Republic of China, [2)]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland 20899-6102, United States)

16:20 ～ 16:30 Short break

午後の部 3
Afternoon Oral Session Part 3

Chair : Wei YI (IOP, CAS)

16:30-16:50 Invited B4-I9-011
Marriage between Kondo and Mott: Heavy Fermion Physics in d-Electron Systems

Yi-feng YANG (Institute of Physics, Chinese Academy of Sciences)

16:50-17:10 Invited B4-I9-012
Commensurate charge density waves in the layered titanium oxypictides Na2Ti2X2O (X = As, Sb)

Yanfeng GUO[1)], Liam GANNON[1)], Andrew J PRINCEP[1)], Roger D JOHNSON[1)], Junzhang MA[2)], Tian QIAN[2)], Xia WANG[2)], Hang LI[2)], Youguo SHI[2)], Andrew T BOOTHROYD[1)] ([1)]Department of Physics, University of Oxford, [2)]Institute of Physics, Chinese Academy of Sciences)

17:10-17:30 Invited B4-I9-013
Electronic Structures of the High Temperature Superconductors and Sr2IrO4

Xingjiang ZHOU (Institute of Physics, Chinese Academy of Sciences, Beijing)

17:30-17:40 B4-O9-015
Metal fluorides, a new family of negative thermal expansion materials

Lei WANG (Beihang University)

12 月 10 日（木）
December 10 (Thu.)
横浜情報文化センター Room B
Yokohama Media & Communications Center, Room B

午前の部 1
Morning Oral Session Part 1

Chair : Yoshihiro TSUJIMOTO (NIMS)

9:30-9:55 Keynote B4-K10-001
Abnormal thermal expansion and correlated magnetic, electronic transport in antiperovskite Mn3XN compounds

Cong WANG (Beihang University)

9:55-10:15 Invited B4-I10-002
The Growth of TbMnxOy Nanostructures

Peikai ZHANG, Yimin CUI (Department of Physics, Beihang University)

10:15-10:35 Invited B4-I10-003
High upper critical fields of superconducting Ca10 (Pt4As8) (Fe1.8Pt0.2As2) 5 whiskers

Jun LI[1,2,3)] ([1)]Nanjing University, [2)]National Institute for Materials Science, [3)]KU Leuven)

10:35 ～ 10:45 Short break

午前の部 2
Morning Oral Session Part 2

Chair : Yanfeng GUO (ShanghaiTech University)

10:45-11:05 Invited B4-I10-004
Doping-enhanced antiferromagnetism in Ca1-xLaxFeAs2 revealed by 75As nuclear magnetic resonance and nuclear quadrupole resonance

Shinji KAWASAKI[1)], Tomosuke MABUCHI[1)], Satoki MAEDA[1)], Tasuku MIZUKAMI[1)], Kazutaka KUDO[1)], Minoru NOHARA[1)], Guo-qing ZHENG[1,2)] ([1)]Department of Physics, Okayama University, [2)]Institute of Physics and Beijing National Laboratory for Condensed Matter Physics, Chinese Academy of Sciences)

11:05-11:25 Invited B4-I10-005
Pressure-induced superconductivity on the border of helimagnetic quantum critical point in CrAs and MnP

Jinguang CHENG[1,2)], Wei WU[1)], Kazuyuki MATSUBAYASHI[2)], Masa MATSUDA[3)], Jianlin LUO[1)], Yoshiya UWATOKO[2)] ([1)]Beijing National Laboratory for Condensed Matter Physics and Institute of Physics, Chinese Academy of Sciences, [2)]Institute for Solid State Physics, University of Tokyo, [3)]Quantum Condensed Matter Division, Oak Ridge National Laboratory)

11:25-11:45 Invited B4-I10-006
後期遷移金属酸化物の高圧相転移 / High-pressure phase transition of late transition metal oxides

白子　雄一(名古屋大学)

Yuichi SHIRAKO (Nagoya University)

11:45-11:55 B4-O10-007
Elementary Study on the Electric Power Generation from Sea Wave Using Ordinary Speaker Magnets

Md. MUHIBBULLAH, Md. AJADUL ISLAM, Md. ELASHI SEAKH, Asim CHANDRA SUTRADHAR (Bangladesh University)

12月9日（水）
December 9（Wed.）
産業貿易センタービル ホール（1F）
INDUSTRY & TRADE CENTER Hall（1F）

ポスターセッション
Poster Session

11:00-13:00　B4-P9-001
鉄系超伝導体Fe（Te,Se）の強磁場・高圧力下における非接触電気伝導測定 / Contactless conductivity measurements of an iron-based superconductor Fe（Te,Se）under high pressure in high magnetic fields

木田　孝則[1)]、金澤　順二[1)]、田原　大夢[1)]、三宅　厚志[2)]、清水　克哉[3)]、水口　佳一[4)]、高野　義彦[5)]、萩原　政幸[1)]（[1)]大阪大学先端強磁場科学研究センター、[2)]東京大学物性研究所、[3)]大阪大学極限科学センター、[4)]首都大学東京理工学研究科、[5)]物質・材料研究機構）

Takanori KIDA[1)], Junji KANAZAWA[1)], Taimu TAHARA[1)], Atsushi MIYAKE[2)], Katsuya SHIMIZU[3)], Yoshikazu MIZUGUCHI[4)], Yoshihiko TAKANO[5)], Masayuki HAGIWARA[1)]（[1)]AHMF, Osaka University, [2)]ISSP, The University of Tokyo, [3)]KYOKUGEN, Osaka University, [4)]Graduate School of Science & Engineering, Tokyo Metropolitan University, [5)]National Institute for Materials Science（NIMS））

11:00-13:00　B4-P9-002
FeSr2+xY1-xCu2O6+y の超伝導特性 / Superconducting Properties of FeSr2+xY1-xCu2O6+y

飯田　勇（防衛大学校）

Isamu IIDA（National Defense Academy）

11:00-13:00　B4-P9-003
メソ多孔体シリカ中のLa_2CuO_4ナノ粒子における特異な磁気サイズ効果 / Novel Magnetic Size Effects of La_2CuO_4 Nanoparticles in Mesoporous Silica

出口　博之[1)]、田尻　恭之[2)]、新納　健[1)]、美藤　正樹[1)]、香野　淳[2)]（[1)]九州工業大学工学部、[2)]福岡大学理学部）

Hiroyuki DEGUCHI[1)], Takayuki TAJIRI[2)], Takeshi NIIRO[1)], Masaki MITO[1)], Atsushi KOHNO[2)]（[1)]Faculty of Engineering, Kyushu Institute of Technology, [2)]Faculty of Science, Fukuoka University）

11:00-13:00　B4-P9-004
Preparation and Physical Properties of Antiperovskite Mn3XN Film/Heterojunction

Ying SUN, Kewen SHI, Pengwei HU, Lei WANG, Cong WANG（Center for Condensed Matter and Materials Physics, Department of Physics, Beihang University, Beijing）

11:00-13:00　B4-P9-005
The study on the preparation of a new type of antiperovskite compounds AlNNi3

Jie ZHU, Zhizhong YIN（University of Science and Technology Beijing）

11:00-13:00　B4-P9-006
Pressure Effect on Magnetic Transition and Thermal Expansion in Mn3Ga0.95N0.94 by Neutron Diffraction

Kewen SHI[1)], Ying SUN[1)], Hui WU[2)], Qingzhen HUANG[2)], Jun YAN[1)], Sihao DENG[1)], Lei WANG[1)], Pengwei HU[1)], Huiqing LU[1)], Cong WANG[1)]（[1)]Center for Condensed Matter and Materials Physics, Department of Physics, Beihang University, Beijing 100191, People's Republic of China, [2)]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland 20899-6102, United States）

11:00-13:00　B4-P9-007
Low-tempearature synthesis of corundum-type Ti2O3 nanoparticles showing metal-insulator transition

Yoshihiro TSUJIMOTO, Yoshitaka MATSUSHITA, Yu SHAN, Kazunari YAMAURA, Tetsuo UCHIKOSHI（National Institute for Materials Science）

11:00-13:00　B4-P9-008
High Pressure Synthesis of the New Layered Oxyfluoride Perovskite Sr2MnO3F

Yu SU（Superconducting Properties Unit, National Institute for Materials Science）

11:00-13:00　B4-P9-009
Crystal structure and magnetic properties of double perovskite oxide Ba2FeOsO6

Jianfeng HE[1,2)], Hai LUKE FENG[3)], Kazunari YAMAURA[1,2)]（[1)]National Institute for Materials Science, [2)]Graduate School of Chemical Sciences and Engineering, Hokkaido University, [3)]Max Planck Institute for Chemical Physics of Solids）

11:00-13:00　B4-P9-010
High-pressure and high-temperature synthesis of 5d double perovskite oxides

Kazunari YAMAURA（National Institute for Materials Science）