

4th JAEA Synchrotron Radiation Research Symposium X-Ray and High Magnetic Field

March 5-7, 2009
Lecture Hall in Public Relations Center, SPring8, Hyogo, Japan

Supported by Priority area; Spin Science in 100 T

Program Ver. Final 04, March. 2009

March 5th (Thu)

13:30-13:40 Opening J. Mizuki (JAEA, Japan)

[Session 1] Chair; A. Kotani (RIKEN, Japan)

13:40-14:10 O1 Pulsed magnetic field experiments at the ESRF beam line ID06: Recent progress and future plans C. Detlefs (ESRF, France)

14:10-14:35 O2 High energy x-ray diffraction under high magnetic fields at DESY M. von Zimmermann (DESY, Germany)

14:35-15:00 O3 XAS and XMCD under pulsed magnetic fields using energy dispersive beam line O. Mathon (ESRF, France)

15:00-15:25 O4 Spin chirality detection using non-resonant circular X-ray diffraction H. Sagayama (Tohoku Univ., Japan)

15:25-15:50 O5 Theory of XAS and XMCD for the field-induced valence transition in RE compounds I. Harada (Okayama Univ., Japan)

15:50-16:05 Coffee Break

[Session 2] Chair; Z. Islam (APS, USA)

16:05-16:35 O6 Direct evidence of magnetic field induced structural transition in the electron-doped manganite $\text{Ca}_{0.8}(\text{Sm}, \text{Nd})_{0.2}\text{MnO}_3$ F. Duc (LNCMP, France)

16:35-17:00 O7 Pulsed high magnetic fields used at large instruments (for X-ray and neutron sources): experience, limitations and challenges P. Frings (LNCMP, France)

17:00-17:25 O9 Magnetic field induced ordered states in geometrically frustrated pyrochlore magnets B. Gaulin (McMaster Univ., Canada)

17:25-17:50 O10 High field XMCD study on the rare-earth valence fluctuating compounds Y. H. Matsuda (Univ. of Tokyo, Japan)

17:50-18:15 O11 Field induced lattice deformation of quantum magnets studied by high-field x-ray diffraction Y. Narumi (Tohoku Univ., Japan)

March 6th (Fri)

[Session 3] Chair; T. Sakai (JAEA, Japan)

- 9:00-9:25 O12 Angle resolved photoemission study on uranium heavy Fermions
S.-I. Fujimori(JAEA, Japan)
- 9:25-9:50 O13 Semiconductor nanostructure growth observed by in situ X-ray diffraction
M. Takahasi(JAEA, Japan)
- 9:50-10:15 O14 Exotic properties of vanadium oxides under pressure
K. Ohwada (JAEA, Japan)
- 10:15-10:40 O15 Momentum-resolved charge excitations in correlated electron systems
studied by resonant inelastic x-ray scattering K. Ishii (JAEA, Japan)
- 10:40-11:00 Coffee Break

[Session 4] Chair; C. Detlefs (ESRF, France)

- 11:00-11:25 O16 Soft x-ray resonant scattering study on A-type antiferromagnetic ordering in
LaSr₂MnO₇ J.-H. Park (POSTEC, Korea)
- 11:25-11:50 O17 X-ray diffraction measurements under high magnetic fields on triangular
lattice antiferromagnet CuFeO₂ N. Terada (NIMS, Japan)
- 11:50-12:20 O18 Patterns of Strain in Nanocrystals
I. Robinson (University College London, UK)
- 12:20-13:30 Lunch

[Session 5] Chair; F. Duc (LNCMP, France)

- 13:30-14:00 O19 High field, pulsed magnet system for x-ray studies of materials at the APS
Z. Islam (APS, USA)
- 14:00-14:25 O20 Structural Changes in Correlated Electron Systems: Studies at the NSLS
High-Field Facility C. Nelson (BNL, USA)
- 14:25-14:50 O21 Iron Semiconductors and Superconductors C. Petrovic (BNL, USA)
- 15:00-16:30 Laboratory tour
- 16:30-17:45 Poster session
- 18:00-19:30 Banquet

March 7th (Sat)

[Session 6] Chair; S. Takeyama (University of Tokyo, Japan)

- 9:00-9:25 O22 Neutron diffraction in high magnetic fields, past, present and future
H. Nojiri (Tohoku Univ., Japan)
- 9:25-9:50 O23 Neutron scattering study of spinel magnets in magnetic field
M. Matsuda (JAEA, Japan)
- 9:50-10:15 O24 Resonant magnetic X-ray diffraction study of TbB₄ under pulsed high
magnetic field T. Inami (JAEA, Japan)
- 10:15-10:40 O25 Development of high field ESR using a cantilever and a possible
combination with the X-ray measurement H. Ohta (Kobe Univ., Japan)
- 10:40-11:00 Coffee Break

[Session 7] Chair; H. Nojiri (Tohoku University, Japan)

- 11:00-11:25 O26 Field-induced quantum phase transitions in low-dimensional spin systems
T. Sakai (JAEA, Japan)
- 11:25-11:50 O27 Electronic ferroelectricity and magneto-dielectric effect in correlated
electron system S. Ishihara (Tohoku Univ., Japan)
- 11:50-12:15 O28 Theory of High-Magnetic-Field XAS and XMCD at L Edges of Mixed
Valence Ce and Yb Compounds A. Kotani (RIKEN, Japan)
- 12:15-12:25 Closing H. Nojiri (Tohoku University, Japan)

Poster session

16:30~17:45 on March 6th (Fri)

- P1 High magnetic field studies of multiferroic RMnO_3 compounds
J. Stremper(HASYLAB/DESY, Germany)
- P2 Design study of high field continuous magnets suitable for diffraction experiments
F. Debray(CNRS LNCMI Grenoble, France)
- P3 X-ray Magnetic Circular Dichroism Studies of Paramagnetics
A. Rogalev(ESRF, France)
- P4 Actively Shielded Split-Pair Magnets for Neutron Scattering
L. Santodonato(ORNL, USA)
- P5 In-Field scattering studies using a cryogen-free 4-Tesla magnet at APS beamline 4-ID-D
J. Lang(APS, USA)
- P6 Recent development on high magnetic research at Wuhan High Magnetic Field Center of China (WHMFC)
J. Wang and Y. Huang (WHMFC, China)
- P7 Pulsed Magnetic Field for Neutron Diffraction at J-PARC
K. Okada(Tohoku University, Japan)
- P8 High magnetic field experiments at BL19LXU in SPring-8: Present Status
Y. Tanaka(RIKEN, Japan)
- P9 Theoretical study of XAS and XMCD spectra for the field-induced valence transition in Eu compounds
M. OKO(Okayama Univ., Japan)
- P10 Development and application of high-field and high-pressure ESR system
T. Sakurai (Kobe University, Japan)
- P11 Half Magnetization Plateau in a Frustrated $S=1$ Antiferromagnetic Chain
T. Tonegawa(Fukui Univ. of Technology, Japan)
- P12 Present status of neutron diffraction experiments under high pulsed magnetic fields in reactor facilities
K. Ohoyama(Tohoku Univ., Japan)
- P13 Possible lattice effect in BEC of magnon near the saturation field
T. Zenmoto(Tohoku Univ., Japan)
- P14 A new light weight capacitor bank system for molecular magnetism
M. Hayashi(Tohoku Univ., Japan)
- P15 Generalized susceptibility of $(\text{TMTSF})_2\text{ClO}_4$
K. Kishigi(Kumamoto University, Japan)
- P16 Structural relations among intermediate phase, martensite phase and X-phase in ferromagnetic shape memory alloy Ni_2MnGa
H. Kushida (Osaka Univ., Japan)
- P17 Metamagnetic transitions in DyCu studied by neutron diffraction and elastic constants measurement
M. Yasui(Osaka Univ., Japan)

- P18 Recent developments of the electro-magnetic flux compression using Cu lining coil system
E. Kojima(Univ. of Tokyo, Japan)
- P19 Application of a mega-gauss magnetic field to highly frustrated chromium spinels for the study of magnetic phases
A. Miyata(Univ. of Tokyo, Japan)
- P20 High-field magnetization of a distorted spin frustration system $\text{Ni}_5(\text{TeO}_3)_4\text{Br}_2$
J. L. Her (University of Tokyo, Japan)
- P21 Resonant Magnetic X-ray Diffraction and Magnetization Experiments on the Triangular Lattice Antiferromagnet GdPd_2Al_3
H. Kitazawa(NIMS, Japan)
- P22 Neutron diffraction study on the multiple magnetization plateau in TbB_4 under Pulsed High Magnetic Field
S. Yoshii(Tohoku Univ., Japan)
- P23 Spiral charge frustration in molecular conductor $(\text{DI-DCNQI})_2\text{Ag}$
H. Seo(JAEA, Japan)
- P24 Field-induced incommensurate order and magnetostriction effect for the quasi one-dimensional XXZ antiferromagnet BaCoV_2O_8 K. Okunish(Niigata Univ., Japan)
- P25 Magnetization plateau of the Haldane-gapped spin chain
H. Nakano(Univ. of Hyogo, Japan)
- P26 Anomalous temperature dependence of the magnetization of a spin-gapped chain under finite magnetic field
K. Okamoto(Tokyo Institute of Technology, Japan)
- P27 Pressure-Induced Valence Anomaly in TmTe Probed by Resonant Inelastic X-ray Scattering
I. Jarrige(JAEA, Japan)
- P28 Growth and Characterization of Bismuth Magnesium Titanate $\text{Bi}(\text{Mg}_{1/2}\text{Ti}_{1/2})\text{O}_3$
Y. Yoneda(JAEA, Japan)
- P29 Pressure-Induced Suppression of the Cobalt Magnetic Moment in Laves Phase RCo_2 ($R=\text{Dy, Ho, Er}$) probed by XMCD
N. Ishimatsu(Hiroshima University, Japan)
- P30 Temperature dependence of charge excitation spectra in $\text{Sr}_{14-x}\text{Ca}_x\text{Cu}_{24}\text{O}_{41}$ ($x=0,6$) by resonant inelastic x-ray scattering
M. Yoshida(JAEA, Japan)
- P31 Phonon Properties on Iron-Based New Superconductors
T. Fukuda (JAEA, Japan)
- P32 Spectroscopic Investigations for the Chemical Bond Properties of the Actinide and Lanthanide-Soft Donor Complexes and Molecular Design of New Ion Recognition Ligands
T. Yaita (JAEA, Japan)
- P33 Intermediate-Valence State in the Binary Cd-Yb Quasicrystal
D. Kawana(JAEA, Japan)
- P34 Dynamic structural change of Pd-perovskite nanoparticles under redox atmosphere studied by dispersive XAFS
D. Matsumura (JAEA, Japan)
- P35 Development of DC magnets for X-Ray scattering at the NHMFL
M. D. Bird(NHMFL-FSU)