

2004 年度 共同利用成果論文

<SQUID (片平) >

- J. J. Kim, H. Makino, T. Yao, Y. Takata, K. Kobayashi, T. Yamamoto, T. Hanada, M. W. Cho, E. Ikenaga, M. Yabashi, D. Miwa, Y. Nishino, K. Tamasaku, T. Ishikawa, and S. Shin, “Electronic structure of the $Ga_{1-x}Cr_xN$ studied by high-energy photoemission spectroscopy”, *J. Electron Spectrosc. Relat. Phenom.* 144-147 (2005) 561.
- J. J. Kim, H. Makino, K. Kobayashi, Y. Takata, T. Yamamoto, T. Hanada, M. W. Cho, E. Ikenaga, M. Yabashi, D. Miwa, Y. Nishino, K. Tamasaku, T. Ishikawa, S. Shin, and T. Yao, “Hybridization of Cr $3d$ - N $2p$ - Ga $4s$ in the wide band gap diluted magnetic semiconductor $Ga_{1-x}Cr_xN$ ”, *Phys. Rev. B*, 70 (2004) 161315(R).
- J. J. Kim, H. Makino, K. Yamazaki, A. Ino, H. Namatame, M. Taniguchi, T. Hanada, M. W. Cho and T. Yao, “Electronic structure of $Ga_{1-x}Cr_xN$ investigated by photoemission spectroscopy”, *Curr. Appl. Phys.* 4 (2004) 603.
- H. Makino, J. J. Kim, T. Nakamura, T. Muro, K. Kobayashi and T. Yao, “Soft x-ray magnetic circular dichroism of Cr-doped GaN”, *Curr. Appl. Phys.* 4 (2004) 615.
- P. P. Chen, H. Makino and T. Yao, “MBE growth and properties of InN-based dilute magnetic semiconductors”, *J. Cryst. Growth*, 269 (2004) 66.
- H. Makino, J. J. Kim, P. P. Chen, M. W. Cho, and T. Yao, “Making ferromagnetic semiconductors out of III-V nitride semiconductors”, *Proc. SPIE Int. Soc. Opt. Eng.* 5774 (2004) 11.
- P. P. Chen, H. Makino and T. Yao, “InMnN: a nitride-based diluted magnetic semiconductor”, *Solid State Comm.* 130 (2004) 25.
- J. H. Yoo, Y. Murakami, D. Shindo, T. Atou and M. Kikuchi, “Interaction of Separated Ferromagnetic Domains in a Hole-doped Manganite Achieved by a Magnetic Field”, *Phys. Rev. Lett.*, 93 (2004) 047204(1)-(4).
- Y. Gao, Y. Bao, M. Beerman, A. Yasuhara, D. Shindo and K. M. Krishnan, “Superstructure of self-assembled cobalt nanocrystals”, *Appl. Phys. Lett.*, 84 (2004) 3361-3363.
- Y. Gao, D. Shindo, S. Ohnuma and H. Fujimori, “Lorentz microscopy study on the magnetization reversal process in Co-Zr-O nanogranular magnetic films”, *IEEE Trans. Magn.* 40 (2004) 2709.
- T. Kajita, M. Kato, T. Suzuki, T. Itoh, T. Noji, Y. Koike, “New Electron-Doped Superconducting Cuprate $Li_xSr_2CuO_2Br_2$ ”, *Jpn. J. Appl. Phys.* 43 (2004) L1480.
- K. Yamagata, Y. Maeji, T. Yamada, M. Itoh, H. Kezuka, M. Kikuchi, T. Atou, M. Kawasaki, K. Fukuoka, T. Suzuki, “Characterizations of the Shocked-BPSCCO (Bi-Pb-Sr-Ca-Cu-O) Superconducting Particles for Making a Magnetic Sensor”, *Proceedings of the sensor symposium on sensors micromachines and applied systems 2004 Vol. 21*, pp. 221-224, The Institute of Electrical Engineers of Japan.
- Y. Taguchi, M. Hisakabe, Y. Ohishi, S. Yamanaka, and Y. Iwasa, “High pressure study of the layered nitride superconductors”, *Phys. Rev. B* 70 (2004) 104506(1)-(5).
- T. Suzuki, T. Goto, M. Fujita, K. Yamada, “Inhomogeneous superconductivity probed through the elastic

constant of the vortex lattice in $\text{La}_{1.93}\text{Sr}_{0.07}\text{CuO}_4$ ", *J. Magn. Magn. Mater.* 272-276 (2004) E153-154.

- Y. Kunii, T. Suzuki, T. Goto, S. Nakajima, "Anomalous longitudinal nuclear spin relaxation in $\text{TlBa}_2(\text{Ca},\text{Y})\text{Cu}_2\text{O}_7$ at the non-superconducting-superconducting phase boundary", *J. Magn. Magn. Mater.* 272-276 (2004), E1521-1522.
- S. Tani, T. Suzuki, T. Goto, H. Tanaka, S. Awaji, T. Takahiko, K. Watanabe, "NMR study on field-induced magnetic order in quantum spin magnet NH_4CuCl_3 ", *J. Magn. Magn. Mater.* 272-276 (2004) 906-907.
- S. Nimori and D. X. Li, "High Field Magnetization and ac Susceptibility Studies of $\text{Ce}_3\text{Rh}_2\text{Ge}_2$ ", *J. Magn. Magn. Mater.*, 272-276 (2004) 79-80.
- T. Yamamura, D. X. Li, K. Yubuta, Y. Shiokawa, "Spin-glass Behavior in Ternary Uranium Compound U_2CuGa_3 ", *J. Alloys and Compounds*, 374 (2004) 226-229.
- D. X. Li, S. Nimori, Y. Shiokawa, "Competing Magnetic Interactions and Spin-glass-like Behavior in PrCoRuSi_2 ", *J. Alloys and Compounds*, 374 (2004) 93-96.
- D. X. Li, S. Nimori, Y. Shiokawa, "Superconductivity in $\text{La}_3\text{Rh}_2\text{Ge}_2$ and $\text{La}_3\text{Pt}_2\text{Ge}_2$ ", *IEEE Transactions on Applied Superconductivity*, 14 (2004) 1137-1140.
- M. Fujita, M. Matsuda, S. Katano, K. Yamada "Magnetic field effect on the static antiferromagnetism of the electron-doped superconductor $\text{Pr}_{1-x}\text{La}_x\text{Ce}_x\text{CuO}_4$ ($x=0.11$ and 0.15)", *Phys. Rev. Lett.* 93 (2004) 147003.
- M. Fujita, H. Goka, K. Yamada, J. M. Tranquada, L. P. Regnault "Stripe order, depinning, and fluctuations in $\text{La}_{1.875}\text{Ba}_{0.125}\text{CuO}_4$ and $\text{La}_{1.875}\text{Ba}_{0.075}\text{Sr}_{0.050}\text{CuO}_4$ ", *Phys. Rev. B* 70 (2004) 104517.
- R. Kadono, K. Ohishi, A. Koda, W. Higemoto, K. M. Kojimal, M. Fujita, S. Kuroshima, K. Yamada "Strong Correlation Between Field-induced Magnetism and Superconductivity in $\text{Pr}_{0.89}\text{LaCe}_{0.11}\text{CuO}_4$ ", *J. Phys. Soc. Jpn.* 73 (2004) 2944-2947.
- S. Miura, K. Koyama, H. Okada, T. Shigeoka and K. Watanabe, "High-Field X-ray diffraction of SmMn_2Ge_2 ", *Jpn. J. Appl. Phys.* 44 (2005) 1258-1259.
- K. Koyama, K. Fukushima, M. Yamada, T. Goto, Y. Makihara, H. Fujii, and K. Watanabe, "High field x-ray diffraction and high pressure magnetization measurements of the pseudobinary compound $\text{Ce}(\text{Fe}_{0.9}\text{Co}_{0.1})_2$ ", *Physica B* 346, (2004) 187-190.
- H. Okada, K. Koyama, S. Miura, M. Yamada, T. Goto, Y. Makihara, H. Fujii, K. Watanabe, "Pressure effect on magnetic properties of $\text{Ce}(\text{Fe}_{1-x}\text{Co}_x)_2$ ", *J. Phys. Soc. Jpn.* 73 (2004) 1982-1986.
- H. Okada, K. Koyama and K. Watanabe, "Two-step structural modulations and Fermi liquid state in Spinel compound CuV_2S_4 ", *J. Phys. Soc. Jpn.* 73 (2004) 3227-3230.

<SQUID (青葉山) >

- E. Negishi, T. Kuwabara, S. Komiyama, M. Watanabe, Y. Noda, T. Mori, H. Matsui, and N. Toyota, "Dielectric ordering and colossal magnetodielectricity in the antiferromagnetic insulating state of λ -(BEDT-TSF) $_2\text{FeCl}_4$ ", *Phys. Rev. B* 71 (2005) 012416.
- S. Komiyama, M. Watanabe, Y. Noda, Negishi E, Toyota N, "Relaxor-like behavior in λ -(BETS) $_2\text{FeCl}_4$ studied by SR X-ray diffraction", *J. Phys. Soc. Jpn.* 73 (2004) 2385-2388.

- H. Matsui, T. Suzuki, E. Negishi, and N. Toyota, "Magnetic response of microwave complex conductivities in antiferromagnetic insulating states of λ -(BEDT-TSF)₂FeCl₄", *J. de Physique IV* 114 (2004) 233-237.
- F. L. Pratt, S. J. Blundell, T. Lancaster, S. L. Lee, and N. Toyota, "Electrodynamics of molecular organic superconductors studied by μ SR", *J. de Physique IV* 114 (2004) 367-369.
- Tobo, H. Yamauchi, E. Kishi, M. Sakata, K. Ishimoto, K. Ohoyama, H. Onodera, and Y. Yamaguchi, "Magnetic phase diagrams of Ce_{1-x}M_xB₂C₂ (M=La and Lu)", *J. Magn. Magn. Mater.* 272-276 (2004) E463-E464.
- T. Matsumura, D. Okuyama, N. Oumi, K. Hirota, H. Nakao, Y. Murakami, and Y. Wakabayashi, "d-f Coulomb and quadrupole-strain interactions in DyB₂C₂ observed by resonant x-ray scattering", *Phys. Rev. B*, 71 (2005) 012405.
- H. Ishida, T. Matsumura, and K. Shibata, "Appearance of the crystal field levels with conduction electrons in Tm_{0.05}La_xYb_{0.95-x}Te", *J. Magn. Magn. Mater.* 272-276 (2004) 372-373.
- D. Okuyama, T. Matsumura, Y. Murakami, Y. Wakabayashi, H. Sawa, and D. X. Li, "Resonant magnetic X-ray scattering from antiferromagnetic order in GdAs", *Physica B* 345 (2004) 63-65.
- E. Goto, R. A. Begum, S. Zhan, T. Tanase, and K. Tanigaki, "Linear, Redox-Active Pt₆ and Pt₂Pd₂Pt₂ Clusters", *Angewandte Chemie, Communication International edition* 43 (2004) 5029-5032.
- T. Rachi, K. Tanigaki, R. Kumashiro, J. Winter, and H. Kuzmany, "Preparation and electronic states of Na₁₆Ba₈Si₁₃₆ clathrate", *Chemical Physics Letters* 409 (2005) 48-51.

<VSM>

- K. Ido, A. Tobo, K. Kaneko, K. Ohoyama and H. Onodera, "Phase Transitions and Diagrams of Pseudo-binary Antiferroquadrupolar Ordering Compound Ho_{1-x}Tb_xB₂C₂ (0 ≤ x ≤ 1)", *J. Phys. Soc. Jpn.* 73 (2004) 1998-2007.
- K. Indoh, A. Tobo, H. Yamauchi, K. Ohoyama and H. Onodera, "Magnetic Phase Diagrams of Antiferroquadrupolar Ordering Compound DyB₂C₂", *J. Phys. Soc. Jpn.* 73 (2004) 669-675.
- H. Onodera, J. Kaya, H. Yamauchi, K. Indoh, A. Tobo, K. Ohoyama and Y. Yamaguchi, "A new phase boundary in quadrupolar ordered phase of Dy_{0.9}Gd_{0.1}B₂C₂", *J. Magn. Magn. Mater.* 272-276 (2004) Part 1, 614-615.
- K. Kaneko, N. Metoki, K. Ohoyama, H. Onodera and Y. Yamaguchi, "Unusual antiferromagnetic properties affected by antiferroquadrupolar interaction in TbB₂C₂", *J. Magn. Magn. Mater.* 272-276 (2004) Supplement 1, E375-E376.
- X. Y. Lu, A. Nagata, K. Watanabe, T. Nojima, K. Sugawara, S. Hanada, S. Kamada, "Formation and Texture of Bi-2223 Phase During in a Temperature Gradient", *Physics C, Vol.* 412-414(2004)602-606.
- X. Y. Lu, A. Nagata, "Microstructure and superconducting properties of Bi-based superconductors fabricated in high magnetic fields". *Recent Res. Devel. Physics*, 5 (2004) 1227-1253.
- K. Irisawa, A. Fujita, K. Fukamichi, M. Yamada, H. Mitamura, and T. Goto, "Transition between antiferromagnetic and ferromagnetic states in itinerant-electron La(Fe_xAl_{1-x})₁₃ compounds", *Phys. Rev. B* 70 (2004), 214405:1-16.

- H. Shima, K. Oikawa, A. Fujita, K. Fukamichi, K. Ishida and A. Sakuma, "Lattice axial ratio and large uniaxial magneto- crystalline anisotropy in L1₀-type FePd single crystals prepared under compressive stress", Phys. Rev. B70 (2004), 224408:1-7.
- H. Shima, K. Oikawa, A. Fujita, K. Fukamichi and K. Ishida, "Large magnetocrystalline anisotropy energy of L1₀-type Co_{100-x}Pt_x single crystals prepared under compressive stress", Appl. Phys. Lett. 86 (2005), 112515:1-3.
- T. Nishizaki, K. Shibata, M. Maeda, T. Sato, and N. Kobayashi "Vortex Order-Disorder Transition and the Effect of Zn and Ni Substitution in YBa₂Cu₃O_y", Proceedings of Joint meeting of The International Symposium on JSPS Core-to-Core Integrated Action Initiative "Nanoscience and Engineering in Superconductivity" (CTC-NES) and The 4th International Symposium on Intrinsic Josephson Effect and Plasma Oscillations in High-Tc Superconductors (PLASMA 2004)}, (2004) pp.II-27.
- K. Kudo, T. Noji, Y. Koike, T. Nishizaki, and N. Kobayashi "Multi-Tripert Magnons in SrCu₂(BO₃)₂ Studied by Thermal Conductivity Measurements in Magnetic Fields", J. Phys. Soc. Jpn. 73 (2004) 3497.
- M. Jirsa, T. Nishizaki, N. Kobayashi, M. Muralidhar, and M. Murakami "Relaxation in Bulk RBa₂Cu₃O_{7-δ} ", Phys. Rev. B 70 (2004) 024525-1.
- K. Kudo, M. Yamazaki, T. Kawamata, T. Noji, Y. Koike, T. Nishizaki, N. Kobayashi, and H. Tanaka "Drastic Enhancement of Thermal Conductivity in the Bose-Einstein Condensed State of TICuCl₃", J. Phys. Soc. Jpn. 73 (2004) 2358.
- K. Kudo, M. Yamazaki, T. Kawamata, T. Adachi, T. Noji, Y. Koike, T. Nishizaki, and N. Kobayashi "Field-Induced Magnetic Order in La_{2-x}Sr_xCuO₄ (x=0.10, 0.115, 0.13) Studied by In-Plane Thermal Conductivity Measurements", Phys. Rev. B 70 (2004) 014503-1.
- K. Kudo, M. Yamazaki, T. Kawamata, T. Noji, Y. Koike, T. Nishizaki, N. Kobayashi, and H. Tanaka "Thermal conductivity in Bose-Einstein condensed state of TICuCl₃", J. Magn. Magn. Mater. 272-276 (2004) 214.
- K. Kudo, Y. Koike, S. Kurogi, T. Noji, T. Nishizaki, and N. Kobayashi "Magnon Thermal Conductivity in the Spin-Gap State and the Antiferromagnetically Ordered State of Low-Dimensional Copper Oxides", J. Magn. Magn. Mater. 272-276 (2004) 94.
- N. Kobayashi, T. Nishizaki, K. Shibata, and T. Sasaki "Vortex State in YBa₂Cu₃O_y Crystals: Vortex Phase Diagram and Tunneling Spectroscopy in Magnetic Field", Physica B 346-347 (2004) 329.
- S. Awaji, N. Isono, K. Watanabe, M. Muralidhar, M. Murakami, N. Koshizuka and K. Noto, "Mechanism of a High Irreversibility Field for (Nd, Eu, Gd)Ba₂Cu₃O₇ Bulk", IEEE Trans. Appl. Supercond. 15 (2005) 3786.

< X線 >

- Y. Nakamori, S. Orimo, "Synthesis and characterization of the single phase Li_xBC (x = 0.5 and 1.0), using Li hydride as a starting material", Journal of Alloys and Compounds, 370 (2004) L7.
- Y. Nakamori and S. Orimo "Destabilization of Li-based complex hydrides" Journal of Alloys and Compounds, 370 (2004) 271.