

## センターからのお知らせ

# 2010 年度共同利用成果

### <SQUID (片平) >

- D. X. Li, S. Nimori, T. Shikama, “Giant and anisotropic magnetocaloric effect in antiferromagnetic single crystalline DySb”, Solid State Communs. **150** (2010) 1865-1868.
- G. Wang, Y. D. Wang, Y. Ren, D. X. Li, Y. D. Liu, P. K. Liaw, “In-Situ High-Energy X-Ray Diffuse-Scattering Study of the Phase Transition of Ni<sub>2</sub>MnGa Single Crystal under High Magnetic Field”, Metallurgical and Materials Transactions A-Physical Metallurgy and Materials Science, **41A** (2010) 1269-1275.
- T. Yatabe, H. Nakai, K. Nozaki, T. Yamamura, K. Isobe, “Photofunctionalization of a Pentamethylcyclopentadienyl Ligand with the N-Phenylcarbazolyl Group To Prepare a Highly Luminescent Tb<sub>3</sub>b Complex Having a Fast Radiation Rate”, Organometallics, **29** (2010) 2390–2393.
- A. Watanabe, A. Yamashita, M. Nakano, T. Yamamura, T. Kajiwara, “Multi-path magnetic relaxation of Mono-Dysprosium(III) single-molecule magnet with extremely high barrier”, Chem. Eur. J., **17** (2011) 7428-7432.
- A. Yamashita, A. Watanabe, A. Akine, T. Nabeshima, M. Nakano, T. Yamamura, T. Kajiwara, “Wheel-Shaped Er<sub>III</sub>Zn<sub>II</sub>I<sub>3</sub> Single-Molecule Magnet: A Macroyclic Approach to Designing Magnetic Anisotropy”, Angew. Chem., **50** (2011) 4016-4019.
- T. Zenmoto et al., “High Magnetic Field Micro-Calorimeter and Application for BE-Condensation of Cr<sup>5+</sup> Dimer System”, J. Low. Temp. Phys., **159** (2010) 118-121.
- Nedko B et al., “Heat Capacity Reveals the Physics of a Frustrated Spin Tube”, Phys. Rev. Lett., **105** (2010) 037206.
- N. Abe, K. Taniguchi, H. Sagayama, H. Umetsu, T. Arima, “Correlation between the mobility of domain wall and polarization flop direction in a slanted magnetic field in the helimagnetic ferroelectrics Tb<sub>1-x</sub>Dy<sub>x</sub>MnO<sub>3</sub>”, Phys. Rev. B **83** (2011) 060403R.

- W. Ito, X. Xu, R.Y. Umetsu, T. Kanomata, K. Ishida and R. Kainuma, “Concentration dependence of magnetic moment in  $Ni_{50-x}Co_xMn_{50-y}Z_y$  ( $Z = In, Sn$ ) Heusler alloys” *Appl. Phys. Lett.* **97** (2010) 242512.
- K. Ito, W. Ito, R.Y. Umetsu, I. Karaman, K. Ishida and R. Kainuma, “Mechanical and shape memory properties of  $Ni_{43}Co_7Mn_{39}Sn_{11}$  alloy compacts fabricated by pressure sintering”, *Scripta Materialia*, **63** (2010) 1236-1239.
- X. Xu, W. Ito, M. Tokunaga, R.Y. Umetsu, R. Kainuma and K. Ishida, “Kinetic arrest of martensitic transformation in NiCoMnAl metamagnetic shape memory alloy”, *Mater. Trans.* **51** (2010) 1357-1360.
- A. Okubo, R.Y. Umetsu, K. Kobayashi, R. Kainuma and K. Ishida, “Magnetic properties and phase stability of  $L2_1$  phase in  $Co_2Mn(Ga_{1-x}Z_x)$  ( $Z = Si, Ge, and Sn$ ) Heusler alloys”, *Appl. Phys. Lett.* **96** (2010) 222507.
- R.Y. Umetsu, K. Kobayashi, R. Kainuma, Y. Yamaguchi, K. Ohoyama, A. Sakuma and K. Ishida, “Powder neutron diffraction studies for the  $L2_1$  phase of  $Co_2YGa$  ( $Y = Ti, V, Cr, Mn$  and Fe) Heusler alloys”, *J. Alloys Compds.* **499** (2010) 1-6.
- W. Ito, R.Y. Umetsu, R. Kainuma, T. Kakeshita and K. Ishida, “Heat-induced and isothermal martensitic transformations from kinetically arrested parent phase in NiCoMnIn metamagnetic shape memory alloy”, *Scripta Materialia* **63** (2010) 73–76.
- X. Xu, W. Ito, R.Y. Umetsu, K. Koyama, R. Kainuma and K. Ishida, “Kinetic arrest of martensitic transformation in  $Ni_{33.0}Co_{13.4}Mn_{39.7}Ga_{13.9}$  metamagnetic shape memory alloy”, *Mater. Trans.* **51** (2010) 469-471.
- W. Ito, B. Basaran, R. Y. Umetsu, I. Karaman, R. Kainuma and K. Ishida, “Shape memory response in the  $Ni_{40}Co_{10}Mn_{33}Al_{17}$  polycrystalline alloy”, *Mater. Trans.* **51** (2010) 525-528.
- T. Miyamoto, W. Ito, R.Y. Umetsu, R. Kainuma, T. Kanomata and K. Ishida “Phase Stability and Magnetic Properties of  $Ni_{50}Mn_{50-x}In_x$  Heusler-type Alloys”, *Scripta Materialia* **62** (2010) 151-154.

- R.Y. Umetsu, N. Endo, A. Fujita, R. Kainuma, A. Sakuma, K. Fukamichi and K. Ishida, “Electronic specific heat coefficient and magnetic properties of  $L2_1$  phase in  $\text{Co}_2\text{YGa}$  ( $Y = \text{Cr}, \text{Mn}$  and  $\text{Fe}$ ) Heusler alloys”, J. Phys. Conf. Series, **200** (2010) 062036.
- A. Okubo, R.Y. Umetsu, R. Kainuma and K. Ishida, “Magnetic properties and phase stability of  $\text{Co}_2(\text{Ti}_{1-x}\text{Mn}_x)\text{Ga}$  Heusler alloys”, J. Phys. Conf. Series, **200** (2010) 062018.
- K. Sawada, N. Shimomura, M. Doi, and M. Sahashi, “Anomalous Temperature Dependence of Training Effect in Specular Spin Valve using Ultra-Thin  $\text{Cr}_2\text{O}_3$ -NOL with Magnetoelectric Effect”, J. Appl. Phys. **107** (2010) 09D713.

< SQUID (青葉山) >

- E.Matsuoka. D. Usui, Y. Sasaki, M. Watahiki, K. Iwasa, H. Shida, K. Ohoyama, H. Onodera, “Antiferromagnetic Alignment of Magnetic Dipolar Moments Observed by Neutron Powder Diffraction in Rare-Earth Palladium Bronze  $\text{PrPd}_3\text{S}_4$ ”, J. Phys. Soc. Jpn. **79**(2010) 064708.
- Y. Kawarasaki, T. Matsumura, M. Sera, A. Ochiai, “Pressure-Induced Antiferroquadrupole Order in  $\text{CeTe}$ ”, J. Phys. Soc. Jpn. **80** (2011) 023713.
- Y. Matsumoto, N. Kimura, T. Komatsubara, H. Aoki, M. Kimata, T. Terashima, S. Uji, “Anomalous behavior of the dHvA oscillations in  $\text{Ce}_x\text{La}_{1-x}\text{Ru}_2\text{Si}_2$ ”, J. Phys.:Conf. Ser. **200** (2010) 012115.
- Y. Matsumoto, N. Kimura, H. Aoki, M. Kimata, T. Terashima, S. Uji, T. Okane, H. Yamagami, “Delocalization of the f Electron in  $\text{Ce}_x\text{La}_{1-x}\text{Ru}_2\text{Si}_2$ ”, J. Phys. Soc. Jpn.**79** (2010) 083706.
- H. Kubo, K. Umeo, K. Katoh, A. Ochiai, T. Takabatake, “Multiple Magnetic Transitions in a Frustrated Heavy-Fermion Antiferromagnet  $\text{YbAgGe}$  under Magnetic Field and Pressure”, J. Phys. Soc. Jpn. **79** (2010) 064715.
- K. Katoh, T. Koga, G. Terui, A. Ochiai, “Magnetotransport Properties of Heavy-Fermion Ferromagnet  $\text{YbPtGe}$ ”, J. Phys. Soc. Jpn. **79** (2010) 084709.

- T. Förster, J. Sichelschmidt, D. Grüner, M. Brando, N. Kimura, F. Steglich, “Electron spin resonance of the itinerant magnets ZrZn<sub>2</sub> and Nb<sub>1-y</sub>Fe<sub>2+y</sub>: A comparison”, *J. Phys.: Conf. Ser.* **200** (2010) 012035.
- Z. F. Li, J. Ju, J. Tang, K. Sato, M. Watahiki, K. Tanigaki, “Structural and superconductivity study on alpha-FeSe<sub>x</sub>”, *J. Phys. Chem. Solid* **71**(2010) 495.
- J. Ju, J. K, K. Huynh, J. Tang, Z. F. Li, M. Watahiki, K. Sato, H. Terasaki, E. Ohtani, H. Takizawa, K. Tanigaki, “Superconducting properties of SmFeAsO<sub>1-x</sub> prepared under high-pressure condition”, *J. Phys. Chem. Solid* **71** (2010) 491.
- J. Tang, Z. F. Li, T. Nishiro, K. Sato, K. Tanigaki, “Carrier tuning of type-I clathrate single crystals”, *J. Phys. Chem. Solid* **71** (2010) 480.
- J. T. Xu, J. Tang, K. Sato, Y. Tanabe, H. Miyasaka, M. Yamashita, S. Heguri, K. Tanigaki, “Low-temperature heat capacity of Sr<sub>8</sub>Ga<sub>16</sub>Ge<sub>30</sub> and Ba<sub>8</sub>Ga<sub>16</sub>Ge<sub>30</sub>, Tunneling states and electron-phonon interaction in clathrates”, *Phys. Rev. B* **82** (2010) 085206.
- J. Tang, J. T. Xu, S. Heguri, H. Fukuoka, S. Yamanaka, K. Akai, K. Tanigaki, “Electron-phonon interactions of Si<sub>100</sub> and Ge<sub>100</sub> superconductors with Ba atoms inside Nanospaces”, *Phys. Rev. Lett.* **105** (2010) 176402.
- J. Tang, K. Sato, Z. F. Li, K. Tanigaki, “Superconductivity in Silicon and Germanium Polyhedra”, *Physica C* **470** (2010) 622.
- Z. F. Li, J. Ju, J. Tang, T. Nishino, K. Sato, Y. Wang, K. Tanigaki, “Carrier control in Ba<sub>8</sub>Ga<sub>16</sub>Ge<sub>30</sub> single crystals”, *Physica C* **470** (2010) 616.