

Peer-Reviewed Papers

- (1) "Anisotropic response of spin susceptibility in the superconducting state of UTe_2 probed with ^{125}Te -NMR measurement", G. Nakamine, K. Kinjo, S. Kitagawa, K. Ishida, Y. Tokunaga, H. Sakai, S. Kambe, A. Nakamura, Y. Shimizu, Y. Homma, D. Li, F. Honda, and D. Aoki, [*Phys. Rev. B* **103**, L100503 \(2021\)](#).
- (2) "Single-crystal growth and magnetic phase diagram of the enantiopure crystal of NdPt_2B ", Y. J. Sato, F. Honda, A. Maurya, Y. Shimizu, A. Nakamura, Y. Homma, D. Li, Y. Haga, and D. Aoki, [*Physical Review Materials* **5**, 034411 \(2021\)](#).
- (3) "Destabilization of ferromagnetism by frustration and realization of a nonmagnetic Mott transition in the quarter-filled two-orbital Hubbard model", K. Kubo, [*Phys. Rev. B* **103**, 085118 \(2021\)](#).
- (4) "Universal scaling behavior under pressure in the heavy-fermion antiferromagnet CeRh_2Si_2 : ^{29}Si NMR study", H. Sakai, Y. Matsumoto, Y. Haga, Y. Tokunaga, and S. Kambe, [*Phys. Rev. B* **103**, 085114 \(2021\)](#).
- (5) "Temperature versus composition phase diagram and temperature evolution of structure and modulation of $\text{Ni}_2\text{MnGa}_{1-x}\text{In}_x$ single crystals", P. Cejpek, P. Doležal, P. Opletal, J. Valenta, K. Vlášková, and M. Dopita, [*Journal of Alloys and Compounds* **855**, 157327 \(2021\)](#).
- (6) "Devil's staircase transition of the electronic structures in CeSb ", K. Kuroda, Y. Arai, N. Rezaei, S. Kunisada, S. Sakuragi, M. Alaei, Y. Kinoshita, C. Bareille, R. Noguchi, M. Nakayama, S. Akebi, M. Sakano, K. Kawaguchi, M. Arita, S. Ideta, K. Tanaka, H. Kitazawa, K. Okazaki, M. Tokunaga, Y. Haga, S. Shin, H. S. Suzuki, R. Arita, and T. Kondo, [*Nature Communications* **11**, 2888 \(2020\)](#).
- (7) "Different universality classes of isostructural UTX compounds ($T=\text{Rh, Co, Co}_{0.98}\text{Ru}_{0.02}$; $X=\text{Ga, Al}$)", P. Opletal, V. Sechovsky, and J. Prokleška, [*Phys. Rev. B* **102**, 224438 \(2020\)](#).
- (8) "Strong magnetic anisotropy and unusual magnetic field reinforced phase in URhSn with a quasi-kagome structure", Y. Shimizu, A. Miyake, A. Maurya, F. Honda, A. Nakamura, Y. J. Sato, D. Li, Y. Homma, M. Yokoyama, Y. Tokunaga, M. Tokunaga, and D. Aoki, [*Phys. Rev. B* **102**, 134411 \(2020\)](#).
- (9) "Effect of localization of $5f$ -electrons and pressure on magnetism in uranium intermetallics in spin-fluctuation theory", P. Opletal, J. Valenta, P. Proschek, V. Sechovsky, and J. Prokleška, [*Phys. Rev. B* **102**, 094409 \(2020\)](#).
- (10) "Field evolution of the spin-liquid candidate YbMgGaO_4 ", S. Bachus, I. A. Iakovlev, Y. Li, A. Wörl, Y. Tokiwa, L. Ling, Q. Zhang, V. V. Mazurenko, P. Gegenwart, and A. A. Tsirlin, [*Phys. Rev. B* **102**, 104433 \(2020\)](#).
- (11) "Thermodynamic Perspective on Field-Induced Behavior of $\alpha\text{-RuCl}_3$ ", S. Bachus, D. A. S. Kaib, Y. Tokiwa, A. Jesche, V. Tsurkan, A. Loidl, S. M. Winter, A. A. Tsirlin, R. Valentí, and P. Gegenwart, [*Phys. Rev. Lett.* **125**, 097203 \(2020\)](#).
- (12) "Intriguing behavior of $\text{UCo}_{1-x}\text{Rh}_x\text{Ge}$ ferromagnets in magnetic field along the b axis", J. Pospíšil, Y. Haga, A. Miyake, S. Kambe, Y. Tokunaga, M. Tokunaga, E. Yamamoto, P. Proschek, J.

Volny, and V. Sechovsky, *Phys. Rev. B* **102**, 024442 (2020).

(13) "Fragile superheavy Fermi liquid in $\text{YbCo}_2\text{Zn}_{20}$ ",

Y. Shimura, T. Kitazawa, S. Tsuda, S. Bachus, Y. Tokiwa, P. Gegenwart, R. Yamamoto, Y. Yamane, I. Nishihara, K. Umeo, T. Onimaru, T. Takabatake, H. T. Hirose, N. Kikugawa, T. Terashima, and S. Uji, *Phys. Rev. B* **101**, 241102 (2020).

(14) "Low Temperature Specific Heat of UCoAl near the Ferromagnetic Quantum Phase Transition",

M. Maeda, N. Kimura, N. Kabeya, Y. Haga, T. D. Matsuda, A. V. Andreev, and K. Shirasaki, *JPS Conf. Proc.* **30**, 1--6 (2020).

(15) "Unique Skyrmion Phases and Conduction Electrons in Cubic Chiral Antiferromagnet EuPtSi and Related Compounds",

Y. Ōnuki, M. Kakihana, W. Iha, K. Nakaima, D. Aoki, A. Nakamura, F. Honda, M. Nakashima, Y. Amako, J. Gouchi, Y. Uwatoko, S. Nakamura, T. Sakakibara, T. Takeuchi, Y. Haga, H. Ikeda, H. Harima, M. Hedo, and T. Nakama, *JPS Conf. Proc.* **30**, 011008 1--11 (2020).

(16) "De Haas--van Alphen Effect and Fermi Surface Properties of Ti_2Sn_3 ",

J. Ota, W. Iha, S. Kawakatsu, M. Kakihana, D. Aoki, A. Nakamura, J. Gouchi, Y. Uwatoko, H. Harima, Y. Haga, M. Hedo, T. Nakama, and Y. Ōnuki, *JPS Conf. Proc.* **29**, 013007 1--6 (2020).

(17) "Extreme narrow magnetic domain walls in U ferromagnets: The UCoGa case",

P. Opletal, K. Uhlířová, I. Kalabis, V. Sechovský, and J. Prokleška, *Materials Today Communications* **24**, 101017 (2020).

(18) "Partial Up-Up-Down Order with the Continuously Distributed Order Parameter in the Triangular Antiferromagnet TmMgGaO_4 ",

Y. Li, S. Bachus, H. Deng, W. Schmidt, H. Thoma, V. Hutanu, Y. Tokiwa, A. A. Tsirlin, and P. Gegenwart, *Phys. Rev. X* **10**, 011007 (2020).

(19) " P_{213} の空間群に属する化合物および関連する化合物の結晶構造",

垣花 将司, 竹内 徹也, 芳賀 芳範, 播磨 尚朝, 辺土 正人, 仲間 隆男, 大貫 惇睦, *固体物理* **55**, 505--514 (2020).

(20) "Quasi-one-dimensional magnetic interactions and conduction electrons in EuCu_5 and EuAu_5 with the characteristic hexagonal structure",

S. Matsuda, J. Ota, K. Nakaima, W. Iha, J. Gouchi, Y. Uwatoko, M. Nakashima, Y. Amako, F. Honda, D. Aoki, A. Nakamura, T. Takeuchi, Y. Haga, H. Harima, M. Hedo, T. Nakama, and Y. Ōnuki, *Philosophical Magazine* **6435**, 1244 (2020).

(21) "Heavy Fermion State of YbNi_2Si_3 without Local Inversion Symmetry",

S. Nakamura, K. Hyodo, Y. Matsumoto, Y. Haga, H. Sato, S. Ueda, K. Mimura, K. Saiki, K. Iso, M. Yamashita, S. Kittaka, T. Sakakibara, and S. Ohara, *J. Phys. Soc. Jpn.* **89**, 024705 (2020).

(22) "Anisotropic Magnetic Phase Diagrams in EuRh_2Si_2 ",

T. Takeuchi, W. Iha, M. Kakihana, Y. Ashitomi, T. Kida, T. Tahara, M. Hagiwara, Y. Haga, M. Hedo, T. Nakama, and Y. Ōnuki, *JPS Conf. Proc.* **29**, 012005 (2020).

(23) "Single Crystal Growth and Ferromagnetism of New Compound $\text{EuCu}_{1+\delta}\text{P}_{1+\delta}$ ($\delta = 0.425$)",

W. Iha, S. Matsuda, M. Kakihana, T. Takeuchi, Y. Haga, J. Gouchi, Y. Uwatoko, M. Hedō, T. Nakama, and Y. Ōnuki, *JPS Conf. Proc.* **29**, 012006 (2020).

(24) "Spin Glass Behavior in EuCu_2Si_2 Single Crystal Grown by the Flux Method",

T. Takeuchi, Y. Haga, T. Taniguchi, W. Iha, Y. Ashitomi, T. Yara, T. Kida, T. Tahara, M. Hagiwara, M. Nakashima, Y. Amako, M. Hedō, T. Nakama, and Y. Ōnuki, *J. Phys. Soc. Jpn.* **89**, 034705 (2020).

(25) "Pressure-induced Nonmagnetic--Magnetic Transition in SmS Observed by ^{33}S -NMR",

S. Yoshida, H. Yamada, T. Koyama, Y. Nakai, K. Ueda, T. Mito, K. Kitagawa, and Y. Haga, *JPS Conf. Proc.* **29**, 012008 (2020).

(26) "Magnetic and Fermi Surface Properties of EuAu_5 and EuCu_5 ",

S. Matsuda, W. Iha, J. Ota, K. Nakaima, J. Gouchi, Y. Uwatoko, M. Nakashima, Y. Amako, T. Takeuchi, Y. Haga, H. Harima, M. Hedō, T. Nakama, and Y. Ōnuki, *JPS Conf. Proc.* **29**, 012004 (2020).

(27) "Structural Characterization and Magnetic Behavior of Uranium Compound $\text{U}_2\text{Pt}_6\text{Al}_{15}$ ",

Y. Haga, T. Sugai, Y. Matsumoto, and E. Yamamoto, *JPS Conf. Proc.* **29**, 013003 (2020).

(28) "Single Crystal Growth and Unique Electronic States of Cubic Chiral EuPtSi and Related Compounds",

Y. Ōnuki, M. Kakihana, W. Iha, K. Nakaima, D. Aoki, A. Nakamura, F. Honda, M. Nakashima, Y. Amako, J. Gouchi, Y. Uwatoko, S. Nakamura, T. Sakakibara, T. Takeuchi, Y. Haga, H. Ikeda, H. Harima, M. Hedō, and T. Nakama, *JPS Conf. Proc.* **29**, 012001 (2020).

(29) "Nematic and time-reversal breaking superconductivities coexisting with quadrupole order in a Γ_3 system",

K. Kubo, *Phys. Rev. B* **101**, 064512 (2020).

(30) " ^{33}S Nuclear Magnetic Resonance Spectra of Uranium Disulfide $\beta\text{-US}_2$ ",

H. Sakai, Y. Tokunaga, Y. Haga, S. Kambe, S. K. Ramakrishna, A. P. Reyes, P. F. S. Rosa, F. Ronning, J. D. Thompson, Z. Fisk, and E. D. Bauer, *JPS Conf. Proc.* **30**, 011169 (2020).

(31) "The f-electron State of the Heavy Fermion Superconductor NpPd_5Al_2 and the Isostructural Family",

N. Metoki, A. A. Aczel, D. Aoki, S. Chi, J. A. Fernandez-Baca, J.-C. Griveau, M. Hagihala, T. Hong, Y. Haga, K. Ikeuchi, Y. Inamura, K. Kamazawa, R. Kajimoto, H. Kitazawa, T. Masuda, M. Matsuda, M. Nakamura, J. Ohtsuki, D. Pajeroski, H. S. Suzuki, E. Yamamoto, and H. Yamauchi, *JPS Conf. Proc.* **30**, 011123 (2020).

(32) "Single Crystal Growth and Electronic Properties of Mn_2P and Fe_2P ",

J. Ota, M. Kakihana, K. Nakaima, S. Matsuda, T. Kida, M. Hagiwara, M. Nakashima, Y. Amako, D. Aoki, A. Nakamura, F. Honda, Y. Haga, H. Harima, M. Hedō, T. Nakama, and Y. Ōnuki, *JPS Conf. Proc.* **30**, 011087 (2020).

(33) "Magnetic Penetration Depth of UBe_{13} and UPt_3 Derived by DC Magnetization Measurements", A. Sumiyama, R. Nagai, Y. Ishii, Y. Kimura, A. Yamaguchi, G. Motoyama, N. Kimura, E. Yamamoto, Y. Haga, and Y. Ōnuki, *JPS Conf. Proc.* **30**, 011067 (2020).

(34) "Disappearance of In-plane Local Magnetic Anisotropy Below 6 K in Odd-parity Superconductor UPt_3 : Pt-NMR Studies",

H. Tou, T. Aoyama, Y. Manago, H. Kotegawa, M. Hirata, T. Sasaki, N. Kimura, Y. Haga, E. Yamamoto, and Y. Ōnuki, *JPS Conf. Proc.* **30**, 011066 (2020).

(35) "Critical Current Density of the Ferromagnetic Superconductor UGe₂ near the Superconducting Transition Temperature",

A. Yamaguchi, T. Kotani, A. Ogura, I. Kawasaki, A. Sumiyama, G. Motoyama, T. Yamamura, K. Shirasaki, J. Gouchi, and Y. Haga, *JPS Conf. Proc.* **30**, 011064 (2020).

(36) "Symmetry of Hidden Ordered State in URu₂Si₂ : Our Current Understanding",

S. Kambe, Y. Tokunaga, H. Sakai, T. D. Matsuda, Y. Haga, R. E. Walstedt, and H. Harima, *JPS Conf. Proc.* **30**, 011035 (2020).

(37) "Coexistence of Superconductivity with Quadrupole Order in a Γ_3 System",

K. Kubo, *JPS Conf. Proc.* **30**, 011041 (2020).

(38) "Orbitally defined field-induced electronic state in a Kondo lattice",

G. G. Lesseux, H. Sakai, T. Hattori, Y. Tokunaga, S. Kambe, P. L. Kuhns, A. P. Reyes, J. D. Thompson, P. G. Pagliuso, and R. R. Urbano, *Phys. Rev. B* **101**, 165111 (2020).

Invited Talks at International Conferences

(1) "Low-energy magnetic excitations in UTe₂",

Y. Tokunaga, *UTe₂ Online Workshop, Online* (Sep. 14, 2020).

(2) "NMR Study of Magnetic Fluctuations in Heavy Fermion Superconductor UTe₂",

Y. Tokunaga, *GIMRT-REMAS2020, Online* (Oct. 2, 2020).

(3) "Zero-field QCP in CeCoIn₅",

Y. Tokiwa, P. Gegenwart, and E. Bauer, International Workshop on "20 years of the 115's: past present, and future" (Los Alamos, NM, USA) (Nov. 9--12, 2020)

Books and Scientific Articles

None

Patents

None

Awards

(1) S. Kambe JPSJ Outstanding Referees 2020

Press Release

None