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24		The Detector Control System for the Muon Forward Tracker at ALICE ALICE
25		X X
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27		Cartan F(R)
28		$Cu_2CoTi_3S_8$
29	JI YINGBO	Analysis of high order perturbative behaviour in numerical stochastic perturbation theory through Fokker-Planck Equation Fokker-Planck

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[1] Soheila Abdollahi 2020 7 20

Deep Morphological and Spectral Studies of Supernova Remnant CTB 37A with *Fermi*-LAT

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[2] ZHENG MINGTIAN 2020 9 4

High-resolution angle-resolved photoemission study of oxygen adsorbed Fe/MgO(001)

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[3] Zhao Qing 2020 9 4

Nature of chemical bonds in double perovskite-type oxide $BaBiO_3$ and related oxides visualized by synchrotron-radiation X-ray diffraction

X $BaBiO_3$

[4] FAN DONGXIAO 2020 9 18

Photoluminescence Properties of Distorted Titanates Investigated by X-ray Absorption Spectroscopy

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[5] 2021 3 4

Crystal structure and phase transition of barium aluminate and calcium strontium sulfoaluminate by synchrotron radiation X-ray diffraction

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Low-Energy Electronic States in the Vicinity of Mott Insulating Phase of Ruthenates and Cuprates

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Light- and spin- induced electronic structures of novel topological materials

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[1] Tomohiro Inagaki, Masahiko Taniguchi, “Gravitational waves in modified Gauss–Bonnet gravity”, International Journal of Modern Physics D Vol. 29, No. 10, 2050072, doi: 10.1142/S0218271820500728(2020).

[2] Ken-Ichi Ishikawa, Tomohiro Sogabe, “A thick-restart Lanczos type method for Hermitian J-symmetric eigenvalue problems”, Japan J. Indust. Appl. Math. 38, 233 - 256 (2021), https://doi.org/10.1007/s13160-020-00435-x.

[3] Junpei Kakazu, Ken-Ichi Ishikawa, Naruhito Ishizuka, Yoshinobu Kuramashi, Yoshifumi Nakamura, Yusuke Namekawa, Yusuke Taniguchi, Naoya Ukita, Takeshi Yamazaki, and Tomoteru Yoshié (PACS Collaboration), “ form factors at the physical point on fm volume”, Phys. Rev. D 101, 094504, DOI: 10.1103/PhysRevD.101.094504.

[4] , , , , , , , _____, uTofu QCD , (HPC) (ISSN:21888841), vol.2020-HPC-177, no.22, pp.1-8, 2020-12-14.

[5] Apriadi Salim Adam, Nicholas Benoit, Yuta Kawamura, Yamato Matsuo, Takuya Morozumi, Yusuke Shimizu, Yuya Tokunaga, Naoya Toyota, “Time evolution of lepton number carried by Majorana neutrinos”, Progress of Theoretical and Experimental Physics, Volume 2021, Issue 5, May2021, 053B01, (p1-p22).

[6] D.A.Faroughy, G.Isidori, F.Wilsch and K.Yamamoto, “Flavour symmetries in the SMEFT,” JHEP08(2020), 166 doi:10.1007/JHEP08(2020)166.

[7] Tatsuo Kobayashi, Yusuke Shimizu, Kenta Takagi, Morimitsu Tanimoto, Takuya H. Tatsuishi,

Hikaru Uchida, “CP violation in modular invariant flavor models”, 101, 055046, Physical Review D.

[8] Tatsuo Kobayashi, Yusuke Shimizu, Kenta Takagi, Morimitsu Tanimoto, Takuya H. Tatsuishi, “Modular S3-invariant flavor model in SU(5) grand unified theory”, Volume 2020, Issue 5, May 2020, 053B05, Progress of Theoretical and Experimental Physics.

[1] Takuya Morozumi, Apriadi Salim Adam, Nicholas J. Benoit, Yuta Kawamura, Yamato Matsuo, Yusuke Shimizu, Yuya Tokunaga, Naoya Toyota, “Time variation of Lepton Family Number of Majorana Neutrinos”, Beyond Standard Model: From Theory to Experiment (BSM2021), online, 2021 3 29 -4 2 [2021 3 30].

[2] Yusuke Shimizu,“Origin of favor structures for elementary particles”, The 1st IIT Bombay-Hiroshima workshop for Frontiers of Neutrino Physics, online, 2020 10 26 -10 30 [2020 10 29].

[3] Kei Yamamoto,“Flavor symmetry and New physics”, The 1st IIT Bombay-Hiroshima workshop for Frontiers of Neutrino Physics, online, 2020 10 26 -30 [2020 10 30].

[1] Masahiko Taniguchi*, Tomohiro Inagaki, “The vierbein formalism in F(R) gravity with spinor”, onlim g P$0K @ à @ @

[7] Adam Apriadi Salim, Benoit Nicholas J.*, Morozumi Takuya, Nagao Keiko I., Takata Hiroyuki, "Initial Time Renormalization of a Non-Equilibrium Effective Field Theory", Frontiers in Neutrino Physics 2020, online, 2020 10 26 -30 [2020 10 29]

[8] ỪBenoit Nicholas J.*, Morozumi Takuya, Shimizu Yusuke, Takagi Kenta, Yuu Akihiro, "A Study of Renormalization Group Effects on the Mass of the Lightest Neutrino", 10th International Conference on the Exact Renormalization Group 2020, YITP-W-20-09, online, 2020 11 2 -6 [2020 11 5]

[9] Hiromu Shimoji*, Tomohiro Inagaki, Yamato Matsuo, "Phase structure in Gross-Neveu model at finite density on torus", The 1st IIT Bombay-Hiroshima workshop for Frontiers of Neutrino Physics, 2020 10 26 -30 [2020 10 29]

[10] Yamato Matsuo*, T. Inagaki, H. Shomoji, "Linear correction for four fermi interaction model in Magnetic field", The 1st IIT Bombay-Hiroshima workshop for Frontiers of Neutrino Physics, 2020 10 26 -30 [2020 10 30]

[11] Yuki Sugiyama*, "The Unruh effect from GWs in Rindler and Kasner spacetime", online JGRG workshop 2020, online, 2020 11 23 -27 [2020 11 23 ˝ ☻ ♥ ש]

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[6] *, نى , ج فجـ, ي , ـب 1 ج, , 8 2+1 W , ש ķ ש QCD ⌐ ╟ ╢ ─ 9 , ن 2020 ن, 2020 9 14 -17 , ○ א = ▬ א [2020 9 15]

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[8] _____, Gross-Witten-Wadia GWW , (SSI2020) , 2020 9 9 -11 , [2020 9 11]
[9] Takuya Morozumi, Apriadi Salim Adam, Nicholas J. Benoit, Yuta Kawamura, Yamato Matsuo, Yusuke Shimizu, Yuya Tokunaga, Naoya Toyota, “Time evolution of Lepton Family Number carried by Majorana Neutrinos”, 7 th KEK-PH Lectures and Workshop (KEK-PH Flavor 2020), online [2021 3 24]
[10] Takuya Morozumi, Apriadi Salim Adam, Nicholas J. Benoit, Yuta Kawamura, Yamato Matsuo, Yusuke Shimizu, Yuya Tokunaga, Naoya Toyota, “Lepton Number Violation in a unified framework, revised”, Flavor physics workshop 2020 (FPWS2020), 2020 11 24 -27 , online [2020 11 27]
[11] _____, , , , _____, , , 2020 9 14 -17 , [2020 9 17]
[12] _____, , _____, , , , B , 76 , 2021 3 12 -15 , [2021 3 14]
[13] _____, 1 , (SSI2020) , 2020 9 9 -11 , [2020 9 11]
[14] *, , _____, _____, Apriadi Salim Adam, Left-Right asymmetric model and flavor observables , 76 2021 , 2021 3 12 -15 , [2021 3 14]
[15] , Flavor Physics Workshop 2020, 2020 11 24 -27 , [2020 11 26]
[16] , Flavor symmetry and New physics , (SSI2020), 2020 9 9 -11 , [2020 9 9]
[17] , 2020, 2020 8 31 -9 4 , [2020 9 1]
[18] *, , , , _____, _____, , , , 76 2021 , , 2021 3 12 -15 [2021 3 15]
[19] *, , _____, SMEFT from two Hiigs doublet , Flavor physics workshop 2020 (FPWS2020) , , 2020 11 24 -27 [2020 11 26]
[20] *, , _____, Two Higgs , 2020 , , 2020 9 14 -17 [2020 9 16]
[21] *, , _____, Study of Two Higgs model using

effective theory , (SSI2020), , 2020 9 9 -11 [2020 9 9]
[22] *, , (SSI2020), , 2020 9 9 -11 [2020 9 10]
[23] Adam Apriadi Salim, Benoit Nicholas J.*, Kawamura Yuta, Matsuo Yamato, Morozumi Takuya, Shimizu Yusuke, Toyota Naoya, Lepton Number for Dirac neutrino in a unified framework , (PPP) 2020, YITP-W-20-08, online, 2020 08 31 -9 4 [Slack]
[24] Adam Apriadi Salim, Benoit Nicholas J.*, Morozumi Takuya, Nagao Keiko I., Takata Hiroyuki, Initial Time Renormalization of a Non-Equilibrium Effective Field Theory , 2 (SSI2020), online, 2020 09 9 -11 [ ]
[25] Benoit Nicholas J.*, Morozumi Takuya, Shimizu Yusuke, Takagi Kenta, Yuu Akihiro, A Study of Renormalization Group Effects on a Texture Neutrino Mass Matrix , Flavor Physics Workshop 2020, online, 2020 11 24 -27 [2020 11 26]
[26] Adam Apriadi Salim, Benoit Nicholas J.*, Kawamura Yuta, Matsuo Yamato, Morozumi Takuya, Shimizu Yusuke, Toyota Naoya, Evolution of Lepton Number for Dirac Neutrinos in a Unified Framework , 76 (2021), Online, 2021 3 12 -15 [2021 3 15]
[27] , Fixed Point Tensor , (SSI2020), , 2020 9 9 -11 [2020 9 9]
[28] , Unruh , (SSI2020), , 2020 9 9 -11 [2020 9 10]
[29] , Gross--Neveu Casimir , KEK , 2020 8 24 -26 , [2020 8 25]
[30] *, _____, , NJL , 2020 , 2020 9 14 -17 , [2020 9 15]
[31] , Gross--Neveu , (SSI2020), 2020 9 9 -11 , [2020 9 9]
[32] *, _____, , Gross--Neveu , 76 (2021), 2021 3 12 -15 , [2021 3 15]
[33] , Unruh , KEK , 2020 8 24 -26 , [2020 8 24]
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Antonio Gonzalez-Arroyo

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(1)Time Variation of Particle Number: Tomsk State Pedagogical University (Russia)
Takata Hiroyuki
(2) Time Variation of Lepton Number: LIPI (Indonesian Institute of Sciences)
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[1] Y. Kojima and K. Suzuki, “Magnetic-field evolution with large-scale velocity circulation in a neutron-star crust”, MNRAS (2020), 494, p.3790.

[2] J. Kovar, Y. Kojima, P. Slany, Z. Stuchlik, V. Karas, “Charged fluids encircling compact objects: force representations and conformal geometries”, Class. and Quant. Grav. (2020) 37, id.245007.

[3] Y. Kojima and Y. Kimura, “Particle Acceleration Driven by Null Electromagnetic Fields Near a Kerr Black Hole”, Universe (2021), 7, p.1.

[4] T. Akutu et al (Kagra Collaboration) (Y. Kojima 96 /251), “Application of independent component analysis to the iKAGRA data”, Prog. of Theor. and Exp. Phys. (2020), 4, id.053F01.

[5] B. P. Abbott et al (Y. Kojima 420 /1322), “Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA”, Living Reviews in Relativity (2020), Volume 23, Issue 1, article id.3.

[6] T. Enoto et al. (H. Takahashi 8 /19 Y. Kojima 17 /19), “NinjaSat: an agile CubeSat approach for monitoring of bright x-ray compact objects”, Proceedings of the SPIE (2020), Volume 11444, id. 114441V.

[7] T. Akutu et al (Kagra Collaboration) (Y. Kojima 95 /244), “Vibration isolation systems for the beam splitter and signal recycling mirrors of the KAGRA gravitational wave detector”, Class. and Quant. Grav. (2021) 38, id.065011.

[8] A. Alabi, A. Romanowsky, D. Forbes, J. Brodie, N. Okabe, “An expanded catalogue of low surface brightness galaxies in the Coma cluster using Subaru/Suprime-Cam”, MNRAS, 496, 3182-3197 (2020)

[9] Y. Higuchi, N. Okabe, P. Merluzzi, C. Haines, G. Busarello, and M. Amata, “Shapley supercluster survey: mapping the dark matter distribution”, MNRAS,497,52-66 (2020)

[10] N. Okabe, S. Dicker, D. Eckert, T. Mroczkowski, F. Gastaldello, and 30 others, “Active gas features in three HSC-SSP CAMIRA clusters revealed by high angular resolution analysis of MUSTANG-2 SZE and XXL X-ray observations”, MNRAS,501,1701-1732

[11] V. Ghirardini, E. Bulbul, D. Hoang, M. Klein, N. Okabe, and 25 others, “Discovery of a supercluster in the eROSITA Final Equatorial Depth Survey: X-ray properties, radio halo, and double relics”, A&A, 647, A4 (2021)

[12] T. Enoto et al. (S. Kisaka 3 /37 , corresponding author) “Enhanced X-ray Emission

Coinciding with Giant Radio Pulses from the Crab Pulsar”, Scinece, 372, 187-190 (2021)

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[1] N. Okabe “Updates of cluster science in the HSC survey” Joint XXL-HSC meeting, 2020 7 7 -8 , Online, (◖ = , ש ∘ ‸ א ש Ⱡ א ◓ , 30

[2] N. Okabe “Baryon Budgets in the XXL clusters” Joint XXL-HSC meeting, 2020 7 7 -8 , Online, (◖ = , ש ∘ ‸ א ש Ⱡ א ◓ , 30

[1] S. Kisaka “Energy conversion efficiency in magnetospheric gaps around Kerr black holes”, Black Hole Astrophysics with VLBI: Multi-Wavelength and Multi-Messenger Era, 2021 1 18 -20 , א = א , 70

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[3] ________, Simon Dicker, Dominique Eckert, and the HSC-GBT-XXL collaboration “Active gas features in three HSC-SSP CAMIRA clusters revealed by high angular resolution analysis of MUSTANG-2 SZE and XXL X-ray observations” 2020

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[1] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Centrality dependence of J/ψ and (2S) production and nuclear modification in p-Pb collisions at $\sqrt{s_{NN}}$ = 8.16 TeV", 10.1007/JHEP02(2021)002, *JHEP* **02**, 002, 2021.

[2] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Pion-kaon femtoscopy and the lifetime of the hadronic phase in Pb-Pb collisions at $\sqrt{s_{NN}}$ = 2.76 TeV", 10.1016/j.physletb.2020.136030, *Phys. Lett.* B**813**, 136030, 2021

[3] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Production of ω mesons in pp collisions at √s = 7 TeV", 10.1140/epjc/s10052-020-08651-y, *Eur. Phys. J.* **C80**, 1130, 2020.

[4] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Elliptic and triangular flow of (anti)deuterons in Pb-Pb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV", 10.1103/PhysRevC.102.055203, *Phys. Rev. C* **102**, 055203, 2020.

[5] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "J/ψ elliptic and triangular flow in Pb-Pb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV", 10.1007/JHEP10(2020)141, *JHEP* **10**, 141, 2020.

[6] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Measurement of isolated photon-hadron correlations in $\sqrt{s_{NN}}$ = 5.02 TeV pp and p-Pb collisions", 10.1103/PhysRevC.102.044908, *Phys. Rev. C* **102**, 044908, 2020.

[7] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Constraining the Chiral Magnetic Effect with charge-dependent azimuthal correlations in Pb-Pb collisions at $\sqrt{s_{NN}}$ = 2.76 and 5.02 TeV", 10.1007/JHEP09(2020)160, *JHEP* **09**, 160, 2020.

[8] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Dielectron production in proton-proton and proton-lead collisions at $\sqrt{s_{NN}}$ = 5.02 TeV", 10.1103/PhysRevC.102.055204, *Phys. Rev. C* **102**, 055204, 2020.

[9] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Unveiling the strong interaction among hadrons at the LHC", 10.1038/s41586-020-3001-6, *Nature* **588**, 232-238, 2020.

[10] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Production of light-flavor hadrons in pp collisions at √s = 7 and √s = 13 TeV", 10.1140/epjc/s10052-020-08690-5, *Eur. Phys. J.* **C81**, 256, 2021.

[11] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Z-boson production in p-Pb collisions at $\sqrt{s_{NN}}$ = 8.16 TeV and Pb-Pb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV", 10.1007/JHEP09(2020)076, *JHEP* **09**, 076, 2020.

[12] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Transverse-momentum and event-shape dependence of D-meson flow harmonics in Pb–Pb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV", 10.1016/j.physletb.2020.136054, *Phys. Lett.* **B813**, 136054, 2021.

[13] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Multiplicity dependence of J/ψ production at midrapidity in pp collisions at √s = 13 TeV", 10.1016/j.physletb.2020.135758, *Phys. Lett.* **B810**, 135758, 2020.

[14] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Measurement of the low-energy antideuteron inelastic cross section", 10.1103/PhysRevLett.125.162001, *Phys. Rev. Lett.* **125**, 162001, 2020.

[15] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "J/ψ production as a function of charged-particle multiplicity in p-Pb collisions at $\sqrt{s_{NN}}$ = 8.16 TeV", 10.1007/JHEP09(2020)162, *JHEP* **09**, 162, 2020.

[16] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Search for a common baryon source in high-multiplicity pp collisions at the LHC", 10.1016/j.physletb.2020.135849, *Phys. Lett.* **B811**, 135849, 2020.

[17] S.Acharya, K.Shigaki, Y.Yamaguchi, S.Yano, *et al.*, "Measurement of nuclear effects on (2S) production in p-Pb collisions at $\sqrt{s_{NN}}$ = 8.16 TeV", 10.1007/JHEP07(2020)237, *JHEP* **07**, 237, 2020.

[18] S.Acharya, K.Shigaki, S.Yano, *et al.*, "(Anti-)deuteron production in pp collisions at √s = 13 TeV", 10.1140/epjc/s10052-020-8256-4, *Eur. Phy. J.* **C80**, 889, 2020.

[38] S.Acharya, K.Shigaki, S.Yano, *et al.*, "Production of charged pions, kaons, and (anti-)protons in Pb-Pb and inelastic pp collisions at $\sqrt{s_{NN}}$

10.3847/2041-8213/ab8b5d, *Astrophys. J. Lett.* **894**, L7, 2020.

[53] T. Minoshima, K. Kitamura, T. Miyoshi, “A multistate low-dissipation advection upstream splitting method for ideal magnetohydrodynamics”, 10.3847/1538-4365/ab8aee, *Astrophys. J. Suppl.* **248**, 12, 2020.

[54] T. Miyoshi, T. Minoshima, “A short note on reconstruction variables in shock capturing schemes for magnetohydrodynamics”, 10.1016/j.jcp.2020.109804, *J. Comput. Phys*. **423**, 109804, 2020.

[1] T. Miyoshi, “Structure formati[illegible] tmiin [illegible]

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[3] _____ , STE
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[4] _____, _____, _____, ALICE Collaboration Measurement of forward low-mass dimuon in small collision system at LHC-ALICE , 2020
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[5] _____, _____, _____, ALICE Collaboration Forward muon reconstruction performance with ALICE in Run 3 , 76 , 2021 3 12 -15
[6] , _____, _____, _____, ALICE Collaboration ALICE
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[1] ASASSN-18aan: An eclipsing SU UMa-type cataclysmic variable with a 3.6-hr orbital period and a late G-type secondary star, Wakamatsu, Y., Akitaya, H. (14th), Sasada, M. (24th), Nakaoka, T. (29th), and 40 colleagues, Publications of the Astronomical Society of Japan, (2021)

[2] Optical follow-up observation for GW event S190510g using Subaru/Hyper Suprime-Cam, Ohgami, T., Sasada, M. (12th), Akitaya, H. (13th), and 13 colleagues, Publications of the Astronomical Society of Japan, (2021)

[3] Time-resolved spectroscopy and photometry of M dwarf flare star YZ Canis Minoris with OISTER and TESS: Blue asymmetry in the Halpha line during the non-white light flare, Maehara, H., Sasada, M. (13th), Akitaya, H. (14th), and 15 colleagues, Publications of the Astronomical Society of Japan, 73, 44 (2021)

[4] Follow-up observations for IceCube-170922A: Detection of rapid near-infrared variability and intensive monitoring of TXS 0506+056, Morokuma, T., Kawabata, K. S. (5th), Sasada, M. (10th), Nakaoka, T. (14th), and 34 colleagues, Publications of the Astronomical Society of Japan, 73, 25 (2021)

[5] Multi-wavelength photometry during the 2018 superoutburst of the WZ Sge-type dwarf nova EG Cancri, Kimura, M., Akitaya, H. (18th), Kawabata, K. S. (40th), Nakaoka T. (42th), Sasada, M. (47th), and 44 colleagues, Publications of the Astronomical Society of Japan, 73, 1 (2021)

[6] Regulating Star Formation in Nearby Dusty Galaxies: Low Photoelectric Efficiencies in the Most Compact Systems, McKinney, J., Inami, H. (6th), and 6 colleagues, The Astrophysical Journal, 908, 238 (2021)

[7] Observations of Magnetic Fields Surrounding LkHα 101 Taken by the BISTRO Survey with JCMT-POL-2, Ngoc, N. B., Kawabata, K. S. (66th), and 147 colleagues, The Astrophysical Journal, 908, 10 (2021)

[8] FIR-luminous [C II] Emitters in the ALMA-SCUBA-2 COSMOS Survey (AS2COSMOS): The Nature of Submillimeter Galaxies in a 10 Comoving Megaparsec-scale Structure at z ~4.6, Mitsuhashi, I., Inami, H. (15th), and 21 colleagues, The Astrophysical Journal, 907, 122 (2021)

[9] Investigating the Effect of Galaxy Interactions on the Enhancement of Active Galactic Nuclei at $0.5 < z < 3.0$, Shah, E. A., Inami, H. (16th), and 31 colleagues, The Astrophysical Journal, 904, 107 (2020)

[10] GOODS-ALMA: Using IRAC and VLA to probe fainter millimeter galaxies, Franco, M., Inami, H. (16th), and 34 colleagues, Astronomy and Astrophysics, 643, A53 (2020)

[11] GOODS-ALMA: The slow downfall of star formation in z = 2-3 massive galaxies, Franco, M.,

Inami, H. (17th), and 35 colleagues, Astronomy and Astrophysics, 643, A30 (2020)

[12] Gravitational Test beyond the First Post-Newtonian Order with the Shadow of the M87 Black Hole, Psaltis, D., Sasada, M. (154th), and 186 colleagues, Physical Review Letters, 125, 141104 (2020)

[13] Feature selection for classification of blazars based on optical photometric and polarimetric time-series data, Uemura, M., and 3 colleagues, Publications of the Astronomical Society of Japan, 72, 74 (2020)

[14] Direct Evidence of Two-component Ejecta in Supernova 2016gkg from Nebular Spectroscopy, Kuncarayakti, H., Kawabata, K. S. (14th), and 18 colleagues, The Astrophysical Journal, 902, 139 (2020)

[15] The ALMA Spectroscopic Survey in the Hubble Ultra Deep Field: Constraining the Molecular Content at log(M*/Mo) ~ 9.5 with CO Stacking of MUSE-detected z 1.5 Galaxies, Inami, H., and 21 colleagues, The Astrophysical Journal, 902, 113 (2020)

[16] The ALMA Spectroscopic Survey Large Program: The Infrared Excess of z = 1.5-10 UV-selected Galaxies and the Implied High-redshift Star Formation History, Bouwens, R., Inami, H. (18th), and 23 colleagues, The Astrophysical Journal, 902, 112 (2020)

[17] The Evolution of the Baryons Associated with Galaxies Averaged over Cosmic Time and Space, Walter, F., Inami, H. (28th), and 32 colleagues, The Astrophysical Journal, 902, 111 (2020)

[18] The ALMA Spectroscopic Survey in the Hubble Ultra Deep Field: Multiband Constraints on Line-luminosity Functions and the Cosmic Density of Molecular Gas, Decarli, R., Inami, H. (13th), and 21 colleagues, The Astrophysical Journal, 902, 110 (2020)

[19] The ALMA Spectroscopic Survey in the Hubble Ultra Deep Field: CO Excitation and Atomic Carbon in Star-forming Galaxies at z = 1-3, Boogaard, L. A., Inami, H. (17th), and 17 colleagues, The Astrophysical Journal, 902, 109 (2020)

[20] Two Flares with One Shock: The Interesting Case of 3C 454.3, Liodakis, I., Uemura, M. (20th), and 19 colleagues, The Astrophysical Journal, 902, 61 (2020)

[21] GOODS-ALMA: Optically dark ALMA galaxies shed light on a cluster in formation at z = 3.5, Zhou, L., Inami, H. (20th), and 31 colleagues, Astronomy and Astrophysics, 642, A155 (2020)

[22] The ALMA Spectroscopic Survey in the Hubble Ultra Deep Field: The Nature of the Faintest Dusty Star-forming Galaxies, Aravena, M., Inami, H. (17th), and 21 colleagues, The Astrophysical Journal, 901, 79 (2020)

[23] Monitoring the Morphology of M87* in 2009-2017 with the Event Horizon Telescope, Wielgus, M., Sasada, M. (181th), and 217 colleagues, The Astrophysical Journal, 901, 67 (2020)

[24] Blazar Radio and Optical Survey (BROS): A Catalog of Blazar Candidates Showing Flat Radio Spectrum and Their Optical Identification in Pan-STARRS1 Surveys, Itoh, R., Kawabata, K. S. (7th), and 6 colleagues, The Astrophysical Journal, 901, 3 (2020)

[25] The MUSE Hubble Ultra Deep Field Survey. XV. The mean rest-UV spectra of Lyα emitters at z > 3, Feltre, A., Inami, H. (15th), and 23 colleagues, Astronomy and Astrophysics, 641, A118 (2020)

[26] Trigonometric parallax of O-rich Mira variable star OZ Gem (IRAS 07308+3037): A confirmati ti ’ ’ { φ p ⋉ Ĕ 8 ã Æ Ę

Galaxies at z ~ 2, Kaasinen, M., Inami, H. (17th), and 18 colleagues, The Astrophysical Journal, 899, 37 (2020)

[28] The JCMT BISTRO Survey: Magnetic Fields Associated with a Network of Filaments in NGC 1333, Doi, Y., Kawabata, K. S. (68th), and 136 colleagues, The Astrophysical Journal, 899, 28 (2020)

[29] A Compton-thick nucleus in the dual active galactic nuclei of Mrk 266, Iwasawa, K., Inami, H. (5th), and 7 colleagues, Astronomy and Astrophysics, 640, A95 (2020)

[30] Event Horizon Telescope imaging of the archetypal blazar 3C 279 at an extreme 20 microarcsecond resolution, Kim, J.-Y., Sasada, M. (178th) and 352 colleagues, Astronomy and Astrophysics, 640, A69 (2020)

[31] Verification of Radiative Transfer Schemes for the EHT, Gold, R., Sasada, M. (170th), and 206 colleagues, The Astrophysical Journal, 897, 148 (2020)

[32] THEMIS: A Parameter Estimation Framework for the Event Horizon Telescope, Broderick, A. E., Sasada, M. (156th), and 192 colleagues, The Astrophysical Journal, 897, 139 (2020)

[33] Variations of the physical parameters of the blazar Mrk 421 based on analysis of the spectral energy distributions, Yamada, Y., Uemura, M. (2nd), Fukazawa, Y. (4th), and 3 colleagues, Publications of the Astronomical Society of Japan, 72, 42 (2020)

[34] VLA-ALMA Spectroscopic Survey in the Hubble Ultra Deep Field (VLASPECS): Total Cold Gas Masses and CO Line Ratios for z = 2-3 Main-sequence Galaxies, Riechers, D. A., Inami, H. (14th), and 17 colleagues, The Astrophysical Journal, 896, L21 (2020)

[35] The MUSE Hubble Ultra Deep Field Survey. XIV. Evolution of the Lyα emitter fraction from z = 3 to z = 6, Kusakabe, H., Inami, H. (8th), and 19 colleagues, Astronomy and Astrophysics, 638, A12 (2020)

[36] Late-phase Spectropolarimetric Observations of Superluminous Supernova SN 2017egm to Probe the Geometry of the Inner Ejecta, Saito, S., Kawabata, K. S. (8th), and 7 colleagues, The Astrophysical Journal, 894, 154 (2020)

[37] Evidence for planetary hypothesis for PTFO 8-8695 b with five-year optical/infrared monitoring observations, Tanimoto, Y., Nakaoka T. (7th), Akitaya, H. (17th), Kawabata, K. S. (19th), and 15 colleagues, Publications of the Astronomical Society of Japan, 72, 23 (2020)

[38] Elevated ionizing photon production efficiency in faint high-equivalent-width Lyman-α emitters, Maseda, M. V., Inami, H. (14th), and 17 colleagues, Monthly Notices of the Royal Astronomical Society, 493, 5120 (2020)

[39] SN 2019ein: New Insights into the Similarities and Diversity among High-velocity Type Ia Supernovae, Kawabata, M., Nakaokaa˜Oi a,w

Ajello, M., Fukazawa, Y. (36th), Mizuno, T. (75th), Poon, H. (95th), and 114 coauthors, ApJ 892, 105 (2020)

[43] "Fermi Large Area Telescope Fourth Source Catalog," Abdollahi, S., Fukazawa, Y. (58th), Mizuno, T. (111th), Poon, H. (133th), Takahashi, H. (156th), and 163 coauthors, ApJS 247, 33 (2020)

[44] "First Fermi-LAT Solar Flare Catalog," Ajello, M., Fukazawa, Y. (25th), Mizuno, T. (52th), and 82 coauthors, ApJS 252, 13 (2021)

[45] "Sensitivity of the Cherenkov Telescope Array for probing cosmology and fundamental physics with gamma-ray propagation," Abdalla, H., Fukazawa, Y. (164th), Mizuno, T. (292th), Takahashi, H. (442th), and 504 coauthors, JCAP 2, 48 (2021)

[46] "High-energy emission from a magnetar giant flare in the Sculptor galaxy," Ajello, M., Fukazawa, Y. (36th), Mizuno, T. (68th), Poon, H. (81th), and 105 coauthors, Nature Astronomy 11 (2021)

[47] "On the Origin of the Gamma-Ray Emission toward SNR CTB 37A with Fermi-LAT," Abdollahi, S., Fukazawa, Y. (3rd), and 3 coauthors, ApJ 896, 76 (2020)

[48] Origin of the UV to X-Ray Emission of Radio Galaxy NGC 1275 Explored by Analyzing Its Variability; Imazato, F., Fukazawa, Y., Sasada, M., Sakamoto, T., The Astrophysical Journal, Volume 906, Issue 1, id.30, 12 pp(2021)

[49] The simulation framework of the timing-based localization for future all-sky gamma-ray observations with a fleet of CubeSats; Ohno, M., Werner, N., Pl, A., Mszros, L. Ichinohe, Y., pa, J., Topinka, M., Munz, F., Galgczi, G., Fukazawa, Y., Mizuno, T., Takahashi, H., Uchida, N., Torigoe, K., Hirade, N., Hirose, K., Matake, H., Nakazawa, K., Hisadomi, S., Odaka, H., Proceedings of the SPIE, Volume 11454, id. 114541Z 9 pp. (2020)

[50] GRBAlpha: a 1U CubeSat mission for validating timing-based gamma-ray burst localization; Pl, A., Ohno, M., Mszros, L., Werner, N., Ripa, J., Frajt, M., Hirade, N., Hudec, Jn., Kapu, J., Koleda, M., Laszlo, R., Lipovsk, P., Matake, H., melko, M., Uchida, N., Csk, B., Enoto, T., Frei, Zsolt., Fukazawa, Y., Galgczi, ḫ R nt

Engineers (SPIE) Conference Series, 11444, 114447P (2021)

[56] “Super DIOS mission for exploring "dark baryon"”, Sato, K., Uchida, Y. (24th), Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 11444, 114445O (2021)

[57] “Detail plans and preparations for the science operations of the XRISM mission”, Terada, Y., Takahashi, H. (5th), Mizuno, T. (7th), Fukazawa, Y. (15th), Uchida, Y. (35th), Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 11444, 114445E (2021)

[58] “The XRISM science data center: optimizing the scientific return from a unique x-ray observatory”, Loewenstein, M., Takahashi, H. (13th), Mizuno, T. (15th), Fukazawa, Y. (21st), Uchida, Y., (29th), Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 11444, 114445D (2021)

[59] “Status of x-ray imaging and spectroscopy mission (XRISM)”, Tashiro, M., Fukazawa, Y. (50th), Mizuno, T. (115th), Takahashi, H. (159th), Uchida, Y. (171st), Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 11444, 1144422 (2021)

[60] “Annealing of proton radiation damages in Si-PM at room temperature”, N. Hirade, H. Takahashi (2nd), Y. Fukazawa(6th), T. Mizuno(7th), Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 986, 164673 (2021)

[61] “Attenuation characteristics of a Ce:Gd3Al2Ga3O12 scintillator”, N. Uchida, H. Takahashi (2nd), T. Mizuno(4th), Y. Fukazawa(5th), Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 986, 164725 (2021)

[62] “Silicon photomultiplier (Si-PM) comparisons for low-energy gamma ray readouts with BGO and CsI (Tl) scintillators”, H. Takahashi, T. Mizuno(5th), Y. Fukazawa(6th), Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 989, 164945 (2021)

[63] “Dust polarized emission observations of NGC 6334. BISTRO reveals the details of the complex but organized magnetic field structure of the high-mass star-forming hub-filament network”, D. Arzoumanian, K. S. Kawabata(66th), Astronomy & Astrophysics, 647, A78 (2021)

[64] “First M87 Event Horizon Telescope Results. VII. Polarization of the Ring”, K. Akiyama, M. Sasada(199th), The Astrophysical Journal, 910, L12 (2021)

[65] “First M87 Event Horizon Telescope Results. VIII. Magnetic Field Structure near The Event Horizon”, K. Akiyama, M. Sasada(190th), The Astrophysical Journal, 910, L13 (2021)

[66] “Polarimetric Properties of Event Horizon Telescope Targets from ALMA”, C. Goddi, M. Sasada(199th), The Astrophysical Journal, 910, L13 (2021)

[1] Hanae Inami (Invited panelist), “How can we continue building this community, especially for early-career researchers?”, ESO IR2020 Ground-based thermal infrared astronomy -- past,

[15] H. Takahashi, T. Mizuno et al., “XRISM Science Operation Team (SOT) report,” XRISM Science Meeting #3, 2020.6.22-24, online, 100 participants

[16] H. Takahashi, “Japanese X-ray polarization activities”, High Energy AstroPhysics Association meeting, 2021.3.8-10, Online, 150

[17] Imazawa, R., “Flare Advocates Report P222”, MAGIC AGN meeting, 2021.1.14, online, 60

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[15] ______طمس X عمس سخعمس XL-Calibur , 21 ◦ א ☺ ► ↑ , 2021 1 6 -7 , ○ א = ▬ א , 200

[16] ______طمس X عمس سخعمس XL-Calibur , 2020 ◦ א ☺ ► ↑ , 2020 11 5 -6 , ○ א = ▬ א , 50

[17] ______طمس ♥ ► א ש Ł ▫ א ◓ , 2020 7 27 , ○ א = ▬ א , 100

[18] د IC310/NGC1275 GeV/TeV ● א , ┴ 2020, 2020 8 24 -27 ┴ ○ א = ▬ א , 30 ج

[19] د w , ש ◙ ש BL LacertaeW , ▪ عمس سخعمس ! ȧ ♥ ש , 11 عمس ˀ ש ◒ ◦ ‸ ♫ ɤ , 2020 10 10 -12 , ○ א = ▬ א , 100 ج

[20] د w = ♫ ◒ ≠ ש ' X GRS 1915+105 X-ray low luminous state , 11 عمس ˀ ש ◒ ◦ ‸ ♫ ɤ , 2020 11 10 -12 , ○ א = ▬ א , 100 ج

[21] د GRS 1915+105 ! ȧ ♥ ש , تمس ˀ ש ◒ ◦ ‸ ɤ , 2020 6 29 , ○ א = ▬ א , 20 ج

[22] IIn SN2017hcc , , تمس ˀ ש ◒ ◦ ‸ ♫ ɤ , 2020 6 29 , ○ א = ▬ א , 20 ج

[24] IIn SN2017hcc , ☻ ♥ ש , ꟷ ש ◙ ש ☼ ש Ł ▫ א ◓ , 2020 8 17 -19 , ○ א = ▬ א , 100 ج

[24] IIn SN2017hcc ♦ ☻ Ł , ☻ ♥ ש , عمس ˀ ש ◒ ◦ ‸ ♫ ɤ , 2020 11 10 -12 , ○ א = ▬ א , 100 ج

[25] ╩ IIn SN2017hcc ♦ ☻ Ł , , , 2020 11 18 -19 , ○ א = ▬ א , 31 ج

[26] IIn SN 2019vxm , , تمس ˀ ש ◒ ◦ ‸ ♫ ɤ , 2020 6 29 , ○ א = ▬ א , 20 ج

[27] IceCube , , تمس ˀ ש ◒ ◦ ‸ ♫ ɤ , 2020 6 29 , ○ א = ▬ א , 20 ج

[28] عمس سخ ƚ ש ♥ w , ש ◙ ש , , تمس ˀ ש ◒ ◦ ‸ ♫ ɤ , 2020 6 29 , ○ א = ▬ א , 20 ج

[29] عمس سخ ƚ ש ♥ ◦ ☻ Ł ↑ , ☻ ♥ ש , ꟷ ש ◙ ש ☼ ש Ł ▫ א ◓ , 2020 8 17 -19 , ○ א = ▬ א , 100 ج

[30] GX 339-4 X عمس عمس ♥ ▬ ↑ = ◓ , ☻ ♥ ש , ꟷ ש ◙ ש ☼ ש Ł ▫ א ◓ , 2020 8 17 -19 , ○ א = ▬ א , 100 ج

[31] Yun Jeung Optical and NIR observations of transitional Type Ia SN 2018gv , ☻ ♥ ש , ꟷ ש ◙ ש ☼ ש Ł ▫ א ◓ , 2020 8 17 -19 , ○ א = ▬ א , 100 ج

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SOC: (chair), B-G Andersson (co-chair), A. M. Magalhaes (co-chair), F. Menard (co-chair), E. Falgarone, J. L. Hoffman, , _____, , T. Pillai, S. Potter, C. V. Rodrigues, Astronomical Polarimetry 2020 – New Era of Multi-Wavelength Polarimetry, 2021 3 22 -26 ,
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[2] SOC: _____, “East-Asian ALMA Science Workshop 2021”, 2021 02 17 -19

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[4] _____, _____, _____, Prof. Mark Piece ,
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[5] _____, _____, _____, IXPE , , , , ,
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[6] _____, _____, _____, CTA collaboration , 200 ,
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[7] Norbert Werner, , _____, _____, _____, Eotvos
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[8] _____, _____, _____, _____, Prof. Henric Krawczynski ,
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[9] _____, _____, IceCube collaboration ,

[10] _____, Dr. , Dr. Michael Corcoran, NASA/GSFC Eta Carinae

[11] _____, Dr. , NASA , , X CubeSat

[12] _____, “Jessica Metzger (Chicago Univ. USA), Andrew Strong (MPE, German), Elena Orlando (Stanford Univ., USA)”

[13] _____, _____, _____, , LIGO-Virgo Collaboration (California Institute of Technology, European Gravitational Wave Observatory , Stanford University

[14] _____, , “D. Sahu, G. C. Anupama (India, Indian Institute of Astrophysics), Shashi B. Pandey (India, Aryabhatta Research Institute of Observational-Sciences)”

[15] _____, _____, _____, Yao Yongqiang (Chinese Academy of Science, National Astronomical Observatory of China) HinOTIRI

[16] _____, _____, , , “IceCube collaboration (University of Alberta, Stanford University,), Stanford University” IceCube

[17] _____, Antonio Mario Magalhaes, Universidade de São Paulo,

[18] _____, “Lee Armus (California Institute of Technology, USA),Vassilis Charmandaris (University of Crete, Greece) ”

[19] _____, Fabian Walter , (Max Planck Institute for Astronomy)

[20] _____, Mark Dickinson , “ (National Optical Astronomy Observatory, USA)”

[21] _____, MUSE Consortium, “ (France, Netherlands, Germany, Switzerland, Portugal)” MUSE

[22] _____, Event Horizon Telescope Collaboration, “ (Harverd University, MIT, NAOJ)”

[23] _____, Rychard Bouwens, Leiden University , , , ALMA REBELS

[24] _____, Desika Narayanan ( )

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[8] _____ XL-Calibur
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[9] _____ (B) 31- 3 X
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[10] _____ 31-32
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[12] _____ (A) 30-32
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[19] _____ B , 2019~2021 VLBI
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[21] _____ ALMA FY2021, , “A Systematic Study of the Dust Build-up in the Epoch of Reionization”, , 1
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[3] _____ ASPECS (2020 9 24)

[4] _____ ALMA (2020 9 24)

[5] _____ 1 ASPECS (2020 10 23)

[6] _____ (2020 11 24)

[7] _____ 2020 10 27

[8] _____, _____, _____, , Norbert Werner,
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SPring-8 5

BL02B2 25

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X 27

30 X

31 2

BL02B2 16 2

SPring-8

2 3

2

$BaTiO_3$ $BiFeO_3$

$BaTiO_3$ PZT

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SPring-8 BL02B2

20 SPring-8 BL02B1

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2

BL02B1 26 5

Application of synchrotron radiation in materials crystallography

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Kim

[1] H. S. Mallik, I. Fujii, G. P. Khanal, S. Kim, S. Ueno, T. S. Suzuki, and S. Wada, “Fabrication of <111>-oriented $BaTiO_3$ ceramics by high magnetic field electrophoretic deposition using hexagonal-tetragonal co-existing $BaTiO_3$ powder”, *J. Ceram. Soc. Jpn.* **128** (2020) 469-474.

[2] Q. Zhao, T. Abe, C. Moriyoshi, S. Kim, A. Taguchi, H. Moriwake, H.-T. Sun and Y. Kuroiwa, “Charge Order of Bismuth Ions and Nature of Chemical Bonds in Double Perovskite-type Oxide $BaBiO_3$ Visualized by Synchrotron Radiation X-ray Diffraction”, *Jpn. J. Appl. Phys.* **59** (2020) 095505/1-8.

[3] Y. Kuroiwa, S. Kim, I. Fujii, S. Ueno, Y. Nakahira, C. Moriyoshi, Y. Sato and S. Wada, “Piezoelectricity in Perovskite-type Pseudo-cubic Ferroelectrics by Partial Ordering of Off-centered Cations”, *Commun. Mater.* **1** (2020) 71/1-8.

[4] S. Kim, S. Noda, T. Abe, Y. Yokoi, Y. Nakahira, C. Moriyoshi and Y. Kuroiwa, “Electric-field-induced Structural Changes for Cubic System of Lead-free and Lead-based Perovskite-type Oxides”, *Jpn. J. Appl. Phys.* **59** (2020) SPPA05/1-5.

[5] T. Abe, L. Wu, C. Moriyoshi, Y. Kuroiwa, M. Suzuki, K. Shinoda, R. Aoyagi and J. Akedo, “Synchrotron Radiation X-ray Diffraction Evidence for Nature of Chemical Bonds in $Bi_4Ti_3O_{12}$ Ceramic Powders and Grain-orientation Mechanism of Their Films Formed by Aerosol Deposition Method”, *Jpn. J. Appl. Phys.* **59** (2020) SPPA04/1-5.

[6] T. Abe, S. Kim, C. Moriyoshi, Y. Kitanaka, Y. Noguchi, H. Tanak and Y. Kuroiwa, “Visualization

of Spontaneous Electronic Polarization in Pb Ion of Ferroelectric $PbTiO_3$ by Synchrotron-radiation X-ray Diffraction”, *Appl. Phys. Lett.* **117** (2020) 252905/1-6.

[7] H. Li, Q. Liu, J.-P. Ma, Z.-Y. Feng, J.-D. Liu, Q. Zhao, Y. Kuroiwa, C. Moriyoshi, B.-J.Ye, J.-Y. Zhang, C.-K. Duan and H.-T. Sun, “Theory-guided Defect Tuning through Topochemical Reactions for Accelerated Discovery of UVC Persistent Phosphors”, *Adv. Optical. Mater.* **8** (2020) 1901727/1-8.

[8] D. Ujishiro, T. Matsumura, K. Nakajima, K. Fukuda, T ¾ l’ a, km

Transition by Partial F Substitutions", *Cond. Matter* **5** (2020) 81/1-10.

[19] A. Asaki, H. Akamatsu, G. Hasegawa, T. Abe, Y. Nakahira, S. Yoshida, C. Moriyoshi, and K. Hayashi, "Ferroelectricity of dion-jacobson layered perovskites $CsNdNb_2O_7$ and $RbNdNb_2O_7$", *Jpn. J. Appl. Phys.* **59** (2020) SPPC041/1-6.

[1] N. Fujimura and Y. Kuroiwa [Guest Editor-in-Chief and Guest Editor-in-Charge], Y. Cho, M. Iwata, K. Kakimoto, I. Kanno, K. Kato, M. Kimura, S. Kojima, H. Nagata, M. Shimizu and T. Tsurumi; *Ferroelectric Materials and Their Applications, Jpn. J. Appl. Phys.* Vol. 59, No. SP 2020 Special Issue: 32 , The Japan Society of Applied Physics, IOP Publishing 2020 9 4 .

[1] _____, "
", **55** (2020) 727-730.

[1] B. Iversen, J. Overgaard, Y. Kuroiwa and E. Nishibori, "FY2014 Partner User Activity Report Application of Synchrotron Radiation in Materials Crystallography", *SPring-8/SACLA* **25** (2020) 96-102.

[2] _____ , "2015 1 X ", *SPring-8/SACLA* **25** (2020) 103-113.

[1] C. Moriyoshi, H. Hoashi, E. Nii, T. Fujimura, and R. Sasai; "Crystal Structure and Anion Selectivity of Halide-Anion-Intercalated Ni-Al Layered Double Hydroxides", The 4th Asian Clay Conference (ACC-2020), (2020.6.8-9, Fully-online style, THAILAND).

[2] R. Sasai, T. Fujimura, C. Moryioshi and S. Kawaguchi; "In Situ Observation of Structure Change of Layered Double Hydroxide During Anion-Exchange Reaction by Novel Time-Resolved Synchrotron-Radiation X-ray Diffraction Measurement System", The 4th Asian Clay Conference (ACC-2020), (2020.6.8-9, Fully-online style, THAILAND).

[3] C. J. Bartel, A. Miura, Y. Goto, Y. Mizuguchi, C. Moriyoshi, Y. Kuroiwa, Y. Wang, T. Yaguchi, M. Shirai, M. Nagao, N. C. Rosero-Navarro, K. Tadanaga, G. Ceder, and W. Sun; "Thermodynamic modeling and in situ experimentation to understand solid-state synthesis pathways", 20 Virtual AlChE Annual Meting, (20

Nagao, N. C. Rosero-Navarro, K. Tadanaga, G. Ceder, and W. Sun; “Visualization and rationalization of the systhesis pathe of $YBa_2Cu_3O_{7-x}$”, The 200 International Chemical Congress of Pacific Basin Societies (Pacificchem2020), (2020.12.15-20, Oline style, Honolulu, Hawaii, USA)).

[5] , , , , Kim Sangwook, , , , _____, _____, $0.8BiFeO_3$-$0.2BaTiO_3$, Materials Research Meeting (MRM) Forum 2020, 2020 12 7 -9 ,

[1] _____ , 81 , 2020 9 8 -11 ,

[1] E. Nishibori, B. B. Iversen, J. Overgaard and Y. Kuroiwa Advanced Structural Materials Science using High Energy X-ray with Two Dimensional Detector , SPring-8 2020, 2020 9 18 ,

[2] _____, , X , SPring-8 2020, 2020 9 18 ,

[1] , , , , , , , , , _____ X $BaTiO_3$ 3 II , 37 (FMA-37), 2020 5 27 -30 , , COVID-19

[2] , Wu Lin, _____, _____, , , , X $Bi_4Ti_3O_{12}$, 37 (FMA-37), 2020 5 27 -30 , , COVID-19

[3] , , , , _____, Sangwook Kim, _____ , 37 (FMA-37), 2020 5 27 -30 , , COVID-19

[4] , , , , Kim Sangwook, , , , _____, _____, $0.8BiFeO_3 – 0.2BaTiO_3$, 2020 , 2020 9 8 -11 ,

[5] , , , , _____, _____ $M_8[AlO_2]_{12}(SO_4)_2$ (M = Sr, Ca) $I\bar{4}3m$, 2 2020 , 2020 11 27 -28 ,

[6] , , _____, FLAT-X , 2 2020 , 2020 11 27 -28 ,

[7] , , _____,

, 2 2020 , 2020 11 27 -28 ,
[8] , , _____, _____ X , 2 2020 , 2020 11 27 -28 ,
[9] , , , , , , _____, _____ GdBaFe$_2$O$_5$, 2020 , 2020 11 28 , COVID-19
[10] , _____, _____, , , , Bi$_4$Ti$_3$O$_{12}$, 57 , 2020 12 4 ,
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[7] _____ Japanese Journal of Applied Physics (JJAP) Vol. 59, No. SP (2020) Special Issue: Ferroelectric Materials and Their Applications,Guest Editor-in-Chief and Guest Editor-in-Charge
[8] _____ Asian Ferroelectric Association (AFA), Executive Board ,

[9] _____ Journal of Advanced Dielectrics (JAD), Editorial Board
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[16] Sangwook Kim Materials, Topic Editor for Advanced and Functional Ceramics and Glasses

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[2] _____ SPring-8 BL02B2 ,

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[3] _____, _____ SPring-8 BL02B2 , Prof. Hong-Tao Sun, College of Chemistry, Soochow University, P. R. China

[4] _____, _____ SPring-8 BL02B2 , Dr. Zhigang Zhang, Chiese Academy of Sciences, P. R. China

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SrTiO3

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SrTiO3
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10 nm

SrTiO3

BaTiO3

BaTiO3
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$Fe_{65}Ni_{35}$

Non-collinear spin structure Fe

Ni

$Fe_{65}Ni_{35}$

X (EXAFS)

$Fe_{65}Ni_{35}$

Fe

Fe-Fe Fe-Ni Ni-Ni

$GdFe_2$

X (XMCD)

$GdFe_2$ $GdCo_2$

$GdCo_2$ 2

XMCD $GdFe_2$

SmCo5 XMCD XMCD

Gd_2TM_{17} TM=Fe, Co

Multi-Mbar XAS

100 GPa 1 TPa multi-Mbar

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[1] Dielectric response of $BaTiO_3$ electronic states under AC fields via microsecond time-resolved X-ray absorption spectroscopy; S. Kato, N. Nakajima, S. Yasui, S. Yasuhara, D. Fue, J. Adachi, H. Nitani, Y. Takeichi, A. Anspoks; Acta Materialia 207, 116681 (2021) [6 Pages] doi:10.1016/j.actamat.2021.116681

[2] ○ Strong variant selection observed in the α-ε martensitic transition of iron under quasihydrostatic compression along $[111]_\alpha$; Naoki Ishimatsu, Daiki Miyashita, and Saori I. Kawaguchi; Phys. Rev. B 102, 054106 (2020) [10 Pages] doi:10.1103/PhysRevB.102.054106

[3] Melting curve and phase relations of Fe-Ni alloys: implications for the Earth's core composition; R. Torchio, S. Boccato, F. Miozzi, A. D. Rosa, N. Ishimatsu, I. Kantor, N. Sevelin - Radiguet, R. Briggs, C. Meneghini, T. Irifune, G. Morard; Geophys. Res. Lett. 47, e2020GL088169 (2020) [6 Pages] doi:10.1029/2020GL088169

[4] Photoluminescence mechanism of self-activated titanate phosphors investigated by x-ray absorption spectroscopy under UV irradiation; Dongxiao Fan, Nobuo Nakajima, and Seiya Kato; J. Phys.:Condens. Matter 32, 355503 (2020) [6 Pages] doi:10.1088/1361-648X/ab8cdd

[1] Naoki Ishimatsu

Iron and Fe-Ni Invar alloy: complemental approach to their structural and magnetic transitions by using XAS/XMCD and XRD

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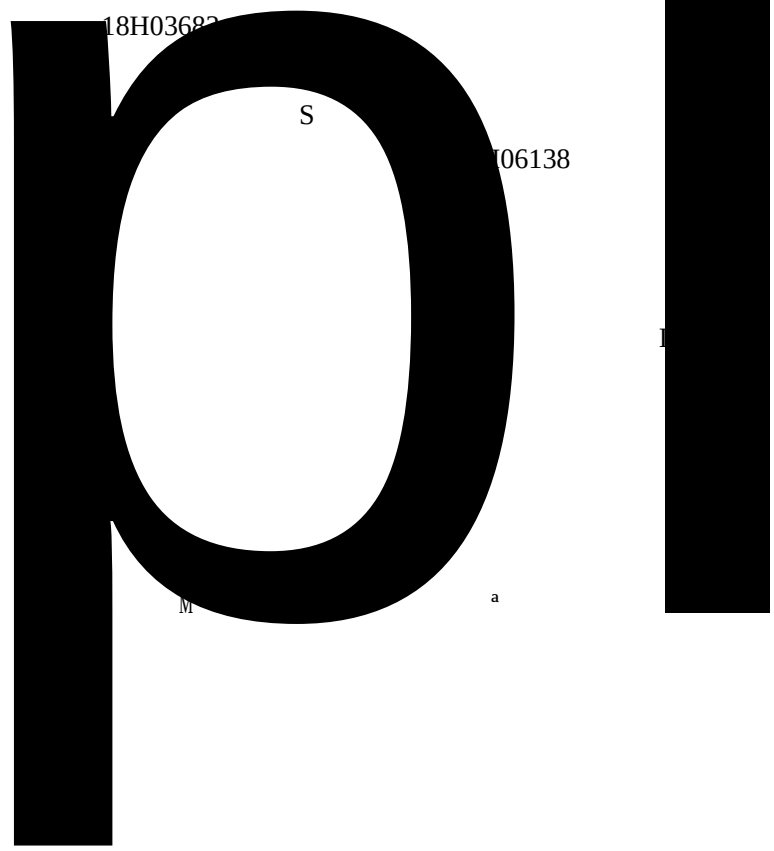

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ARPES

[H. Iwasawa *et al.*

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[1] _____, , , , 126, ( ) (2020).

[2] M. Ye, K. Kuroda, M. M. Otrokov, A. Ryabishchenkova, A. Ernst, E. V. Chulkov, M. Nakatake, M. Arita, T. Okuda, T. Matsushita, L. Tóth, H. Daimon, K. Shimada, Y. Ueda, A. Kimura, "Persistence of the topological surface states in Bi_2Se_3 against Ag intercalation at room temperature," J. Phys. Chem. C **125** (3), pp. 1784-1792 (2021).

[3] K. Sumida, Y. Sakuraba, K. Masuda, T. Kono, M. Kakoki, K. Goto, K. Miyamoto, Y. Miura, T. Okuda, and A. Kimura, "Observation of spin-polarized Weyl cones and gigantic anomalous Nernst effect in ferromagnetic Heusler films," Commun. Mater. **1**, 89/ 1-9 (2020).

[4] T. Kono, M. Kakoki, T. Yoshikawa, X. X. Wang, K. Goto, T. Muro, R. Y. Umetsu, and A. Kimura, "Visualizing half-metallic bulk band structure with multiple Weyl cones of the Heusler ferromagnet," Phys. Rev. Lett. **125** (21), 216403/ 1-6 (2020).

[5] T. Yoshikawa, V. N. Antonov, T. Kono, M. Kakoki, K. Sumida, K. Miyamoto, Y. Takeda, Y. Saitoh, K. Goto, Y. Sakuraba, K. Hono, A. Ernst, and A. Kimura, "Unveiling spin-dependent unoccupied electronic states of Co_2MnGe (Ga) film via Ge (Ga) $L_{2,3}$ absorption spectroscopy," Phys. Rev. B 102 (6), 064428/ 1-7 (2020).

[6] M. Nurmamat, K. Okamoto, S. Zhu, T. V. Menshchikova, I. P. Rusinov, V. O. Korostelev, K. Miyamoto, T. Okuda, T. Miyashita, X. X. Wang, Y. Ishida, K. Sumida, E. F. Schwier, M. Ye, Z. S. Aliev, M. B. Babanly, I. R. Amiraslanov, E. V. Chulkov, K. A. Kokh, O. E. Tereshchenko, K. Shimada, S. Shin and A. Kimura, "Topologically Non-trivial Phase-change Compound $GeSb_2Te_4$," ACS Nano **14** (7), pp. 9059-9065 (2020).

[7] H. Ito, Y. Otaki, Y. Tomohiro, Y. Ishida, R. Akiyama, A. Kimura, S. Shin, S. Kuroda, "Observation of unoccupied states of SnTe(111) using pump-probe ARPES measurement," Phys. Rev. Research **2** (4), 043120/ 1-9 (2020).

[8] T. Imai, J. Chen, K. Kato, K. Kuroda, T. Matsuda, A. Kimura, K. Miyamoto, S. V. Eremeev, and T. Okuda, "Experimental verification of temperature induced topological phase transition on $TlBiS_2$ and $TlBiSe_2$," Phys. Rev. B **102** (12), 125151/ 1-7 (2020).

[9] S. O. Filnov, I. I. Klimovskikh, D. A. Estyunin, A. V. Fedorov, V. Yu. Voroshnin, A. V. Koroleva, A. G. Rybkin, E. V. Shevchenko, Z. S. Aliev, M. B. Babanly, I. R. Amiraslanov, N. T. Mamedov, E. F. Schwier, K. Miyamoto, T. Okuda, S. Kumar, A. Kimura, V. M. Misheneva, A. M. Shikin, and E. V. Chulkov, "Probe-dependent Dirac-point gap in thallium-based topological insulator with gadolinium doping," Phys. Rev. B **102** (8), 085149/ 1-7 (2020).

[10] A. M. Shikin, D. A. Estyunin, I. I. Klimovskikh, S. O. Filnov, E. F. Schwier, S. Kumar, K. Miyamoto, T. Okuda, A. Kimura, K. Kuroda, K. Yaji, S. Shin, Y. Takeda, Y. Saitoh, Z. S. Aliev, N. T. Mamedov, I. R. Amiraslanov, M. B. Babanly, M. M. Otrokov, S. V. Eremeev, and E. V. Chulkov, "Nature of the Dirac gap modulation and surface magnetic interaction in axion antiferromagnetic topological insulator $MnBi_2Te_4$," Sci. Rep. **10**, 13226/ 1-13 (2020).

[11] I. I. Klimovskikh, M. M. Otrokov, D. Estyunin, S. V. Eremeev, S. O. Filnov, A. Koroleva, E.

Shevchenko, V. Voroshnin, A. G. Rybkin, I. P. Rusinov, M. Blanco-Rey, M. Hoffmann, Z. S. Aliev, M. B. Babanly, I. R. Amiraslanov, N. A. Abdullayev, V. N. Zverev, A. Kimura, O. E. Tereshchenko, K. A. Kokh, L. Petaccia, G. Di Santo, A. Ernst, P. M. Echenique, N. T. Mamedov, A. M. Shikin, and E. V. Chulkov, "Tunable 3D/2D magnetism in the $(MnBi_2Te_4)(Bi_2Te_3)_m$ topological insulators family," npj Quantum Mater. **5**, 54 (2020).

[12] Artem G. Rybkin, Anna A. Rybkina, Artem V. Tarasov, Dmitrii A. Pudikov, Ilya I. Klimovskikh, Oleg Yu. Vilkov, Anatoly E. Petukhov, Dmitry Yu. Usachov, Dmitrii A. Estyunin, Vladimir V. Voroshnin, Andrei Varykhalov, Giovanni Di Santo, Luca Petaccia, Eike F. Schwier, Kenya Shimada, Akio Kimura, and Alexander M. Shikin, "Epitaxial growth and physical properties of a promising 2D catalyst: graphene on nano-thin Pt_5Gd alloy," Appl. Surf. Sci., vol.526, art.no.146687/pp.1-8 (1 October, 2020).

[13] T. Miyashita, H. Iwasawa, T. Yoshikawa, S. Ozawa, H. Oda, T. Muro, H. Ogura, T. Sakami, F. Nakamura, and A. Ino "Emergence of low-energy electronic states in oxygen-controlled Mott insulator Ca_2RuO_{4+} ," Solid State Commun. **326**, 114180 (2021).

[1] A. Kimura, "Nodal link semimetals and their surface states probed by ARPES", The 8th International Workshop on "Variety and universality of bulk-edge correspondence in topological phases: From solid state physics to transdisciplinary concepts" (2021.3.26,29,30, Online).

[2] A. Kimura, "Incorporating Magnetism into Topological Quantum Materials for Innovative Functions", 4th QST International Symposium -*Innovation from Quantum Materials Science*- (2020.11.4-6, Takasaki, Japan).

[3] A. Kimura, "Current status and future prospects on ARPES study of bulk-edge correspondence", The 7th International Workshop on "Variety and universality of bulk-edge correspondence in topological phases: From solid state physics to transdisciplinary concepts" (2020.10.20, Online).

[1] S. Ozawa, H. Iwasawa, H. Oda, T. Yoshikawa, A. Kimura, M. Hashimoto, D. Lu, T. Muro, Y. Yoshida, I. Hase, Y. Aiura, S. Kumar, K. Shimada, "Low-energy electron-boson coupling in Sr_2RuO_4," The 25th Hiroshima International Symposium on Synchrotron Radiation (2021.3.4-5, Online). **[Best Student Poster Award]**

[2] H. Oda, H. Iwasawa, T. Miyashita, S. Ozawa, A. Kimura, R. Yano, S. Kashiwaya, T. Sasagawa, S. Kumar, E. F. Schwier, K. Shimada, "Optimization of self-energy in high-Tc cuprate superconductor $La_{2-x}Sr_xCuO_4$," The 25th Hiroshima International Symposium on Synchrotron Radiation (2021.3.4-5, Online).

[3] T. Sugiyama, H. Iwasawa, S. Ozawa, H. Oda, T. Kono, T. Okuda, K. Miyamoto, S. Ishida, Y. Yoshida, H. Eisaki and A. Kimura, "Gap inhomogeneity in $Bi_2Sr_2CaCu_2O_{8+\delta}$ revealed by laser micro-ARPES," The 25th Hiroshima International Symposium on Synchrotron Radiation (2021.3.4-5, Online).

[4] Yuto Fukushima, Tomoki Yoshikawa, Takeo Miyashita, Kaito Shiraishi, Masashi Arita, Keisuke Mitsumoto, Hiroshi Tanida and Akio Kimura, "Electronic Structure of Antiferromagnet CeCoSi

Revealed by VUV-ARPES," The 25th Hiroshima International Symposium on Synchrotron Radiation (2021.3.4-5, Online).

[5] Kaito Shiraishi, Mario Novak, Tomoki Yoshikawa, Takashi Kono, Shiv Kumer, Koji Miyamoto, Taichi Okuda, Eike F. Schwier, Masashi Arita, Kenya Shimada, Sergey V. Eremeev and Akio Kimura, "ARPES study of antiferromagnetic $EuIn_2As_2$," The 25th Hiroshima International Symposium on Synchrotron Radiation (2021.3.4-5, Online).

[6] Kiyotaka Ohwada, Takashi Kono, Shogo Ushio, Kazuki Goto, Koji Miyamoto, Taichi Okuda, Hiroyasu Nakayama, Yuya Sakuraba and Akio Kimura, "Spin-polarized band structures of Ga-rich Fe_3Ga film as a promising material for high thermoelectric performance," The 25th Hiroshima International Symposium on Synchrotron Radiation (2021.3.4-5, Online).

[1] _____ ,
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[2] , , , , , , Weinan Zhou, _____
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[9] , Mario Novak, , , Shiv Kumar, _____, _____, Eike F. Schwier, _____, Sergey V. Eremeev, _____, $EuIn_2As_2$
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[10] , Antonov Victor, , , Wang Xiaoxiao, , _____, , , , , , Ernst Arthur, _____, Co_2MnGe(Ga) Ge(Ga) $L_{2,3}$ II
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[1] K. Nagaya, T. Sakai, T. Nishiyama Hiraki, S. Yase, K. Matsunami, K. Asa, H. Fukuzawa, K. Motomura, Y. Kumagai, W.Q. Xu, S. Wada, H. Hayashita, N. Saito, M. Nagasono, T. Togashi, M. Yabashi, and K. Ueda, “Surface plasma resonance in Xe clusters studied by EUV pump-NIR probe experiments” *J. Phys. Commun.* **5**, 015014(1-7) (2021).

[2] Y. Kumagai, Z. Jurek, W. Xu, V, Saxena, H. Fukuzawa, K. Motomura, D. Iablonskyi, K. Nagaya, S. Wada, Y. Ito, T. Takanashi, S. Yamada, Y. Sakakibara, T. Nishiyama, T. Umemoto, M. Patanen, J. Bozek, I. Dancus, M. Cernaianu, C. Miron, T. Bauer, M. Mucke, E. Kukk, S. Owada, T. Togashi,

K. Tono, M. Yabashi, S.-K. Son, B. Ziaja, R. Santra, and K. Ueda, "Suppression of thermal nanoplasma emission in clusters strongly ionized by hard x-rays" *J. Phys. B* **54**, 044001(1-16) (2021).

[3] M. Hirato M. Onizawa, Y. Baba, Y. Haga, K. Fujii, S. Wada and A. Yokoya, "Electronic properties of DNA-related molecules containing a bromine atom" *Int. J. Radiat. Biol.* in press (2021).

[4] , , ________, , , "X
" **33**, 81-86 (2020).

[1] K. Yamamoto and S. Wada, "Electronic relaxation process in fluorinated aromatic monolayers studied by core-excited ion desorption", The 25th Hiroshima International Symposium on Synchrotron Radiation, (2021.3.4-5, Higashi-Hiroshima (online), Japan).

[2] M. Tabuse and S. Wada, "Soft X-ray polarization measurement and evaluation at HiSOR BL-13 using electron orbitally oriented samples", The 25th Hiroshima International Symposium on Synchrotron Radiation, (2021.3.4-5, Higashi-Hiroshima (online), Japan).

[3] S. Tendo, Y. Okada, and S. Wada, "Inner shell excitation spectroscopy of gold nanoparticles coated with aromatic molecules", The 25th Hiroshima International Symposium on Synchrotron Radiation, (2021.3.4-5, Higashi-Hiroshima (online), Japan).

[4] K. Baba and H. Yoshida, "Comparison of soft X-ray absorption spectra of transition metal sulfates", The 25th Hiroshima International Symposium on Synchrotron Radiation, (2021.3.4-5, Higashi-Hiroshima (online), Japan).

[1] ○ , ________, ________, , , , , ,
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H. Iwasawa, K. Shimada, E. F. Schwier *et al*., Rotatable high-resolution ARPES system for tunable linear-polarization geometry, J. Synchrotron Rad. **24**, 836 2017 1 μm XYZ

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H. Iwasawa, E. F. Schwier, M. Arita *et al*., Development of laser-based scanning μ-ARPES system with ultimate energy and momentum resolutions, Ultramicroscopy **182**, 85-91 2017

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Kumar, S. O. Filnov, Z. S Aliev, M. B. Babanly, E. V Chulkov: “Signatures of temperature driven antiferromagnetic transition in the electronic structure of topological insulator $MnBi_2Te_4$”, *APL Mater*. **8**, 21105 7p 2020 .

[7] A. G. Rybkin, A. A. Rybkina, A. V. Tarasov, D. A. Pudikov, I. I. Klimovskikh, O. Y. Vilkov, A. E. Petukhov, D. Y. Usachova, D. A. Estyunin, V. Y. Voroshnin, A. Varykhalov, G. D. Santo, L. Petaccia, E. F. Schwier, K. Shimada, A. Kimura, A. M. Shikin: “A new approach for synthesis of epitaxial nano-thin Pt_5Gd alloy via intercalation underneath a graphene”, *Appl. Surf. Sci.* **526**, 146687 8p 2020 .

[8] T. Masuda, S. Baba, K. Matsuo, S. Ito, B. Mikami: “The high-resolution crystal structure of lobster hemocyanin shows its enzymatic capability as a phenoloxidase”, *Archives Biochem. Biophys.* **688**, 108370 2020 .

[9] M. A. E Sallam, D. M. S. A. Salem, G. M. H. Labib, T. N. M. A Youssef, K. Matsuo: “Studies on saccharide benzimidazoles: 2-(b-D-gulofuranosyl)benzimidazole and 2-(b-D-glucofuranosyl) benzimidazole C-nucleoside analogs; synthesis, anomeric configuration and antifouling potency”, *Carbohydr. Res.* **496**, 108073 2020 .

[10] M. Kumar, B. Prajapati, A. Singh, S. Kumar, A. Kumar, S. Mittal, A. Aditya: “Structural, optical and magneto-electric coupling analysis in 'Y' doped double perovskite La_2NiMnO_6 nanoparticles”, *Chem. Phys.* **532**, 110688 2020 .

[11] M. Zheng, E. F. Schwier, H. Iwasawa, K. Shimada: “High-resolution angle-resolved photoemission study of oxygen adsorbed Fe/MgO(001)”, *Chin. Phys. B* **29**, 067901 9p 2020 .

[12] K. Matsuo, M. Kumashiro, K. Gekko: “Characterization of the mechanism of interaction between alpha(1)-acid glycoprotein and lipid membranes by vacuum-ultraviolet circular-dichroism spectroscopy”, *Chirality* **32**, 594-606 2020 .

[13] K. Sumida, Y. Sakuraba, K. Masuda, T. Kono, M. Kakoki, K. Goto, W. Zhou, K. Miyamoto, Y. Miura, T. Okuda, A. Kimura: “Spin-polarized Weyl cones and giant anomalous Nernst effect in ferromagnetic Heusler films”, *Commun. Mater.* **1**, 89 2020 .

[14] H. Iwasawa: “High-resolution angle-resolved photoemission spectroscopy and microscopy”, *Electron. Struct.* **2**, 043001 2020 .

[15] K. Ali, H. Ohgaki, H. Zen, T. Kii, T. Hayakawa, T. Shizuma, H. Toyokawa, Y. Taira, V. Iancu, G. Turturica, C. A. Ur, M. Fujimoto, M. Katoh: “Selective isotope CT imaging based on nuclear resonance fluorescence transmission method”, *IEEE Transact. Nucl. Sci.* **67**, 1976-1984 2020 .

[16] S. Kumar, M. Kumar, A. Kumar, S. Sharma, P. Shahi, S. Chatterjee, A. K. Ghosh: “Investigations on structural and optical properties of Al-modified ZnO nanoparticles”, *J. Mater. Sci. - Mater. Electronics* **31**, 7715-7723 2020 .

[17] K. Matsuo, K. Gekko: “Vacuum ultraviolet electronic circular dichroism study of D-glucose in aqueous solution”, *J. Phys. Chem. A* **124**, 642-651 2020 .

[18] I. Jakovac, M. Horvati, E. F. Schwier, A. Prokofiev, S. Paschen, H. Mitamura, T. Sakakibara, M. S. Grbic: “Pd-105 NMR and NQR study of the cubic heavy fermion system $Ce_3Pd_{20}Si_6$”, *J. Phys.: Condens. Matter* **32**, 245601 2020 .

[19] ○ A. Singh, S. Kumar, M. Singh, P. Singh, R. Singh, V. K. Gangwar, A. Lakhani, S. Patil, E. F. Schwier, T. Matsumura, K. Shimada, A. K. Ghosh, S. Chatterjee: “Anomalous Hall effect in Cu doped Bi_2Te_3 topological insulator”, *J. Phys.: Condens. Matter* **32**, 305602 2020 .

[20] P. Singh, M. Alam, S. Kumar, K. Anand, V. K Gangwar, S. Ghosh, M. Sawada, K. Shimada, R. K. Singh, A. K. Ghosh, S. Chatterjee: “Roles of Re-entrant cluster glass state and spin–lattice coupling in magneto–dielectric behavior of giant dielectric double perovskite $La_{1.8}Pr_{0.2}CoFeO_6$”, *J. Phys.: Condens. Matter* **32**, 445801 9p 2020 .

[21] P. E Evans, T. Komesu, E. F Schwier, S. Kumar, K. Shimada, P. A. Dowben: “The band shifts in MoS_2(0001) and WSe_2(0001) induced by palladium adsorption”, *J. Phys.: Condens. Matter* **32**, 465001 7p 2020 .

[22] A. K. Kaveev, A. N. Terpitskiy, O. E. Tereshchenko, V. A. Golyashov, D. A. Estyunin, A. M. Shikin, E. F. Schwier: “Change of the topological surface states induced by ferromagnetic metals deposited on $BiSbTeSe_2$”, *J. Phys.: Conf M*

Kitazawa, K. Okazaki, M. Tokunaga, Y. Haga, S. Shin, H. S. Suzuki, R. Arita, T. Kondo: “Devil's staircase transition of the electronic structures in CeSb”, *Nature Commun.* **11**, 2888 2020 .

[33] T. Hirahara, M. M. Otrokov, T. T. Sasaki, K. Sumida, Y. Tomohiro, S. Kusaka, Y. Okuyama, S. Ichinokura, M. Kobayashi, Y. Takeda, K. Amemiya, T. Shirasawa, S. Ideta, K. Miyamoto, K. Tanaka, S. Kuroda, T. Okuda, K. Hono, S. V. Eremeev E. V. Chulkov: “Fabrication of a novel magnetic topological heterostructure and temperature evolution of its massive Dirac cone”, *Nature Commun.* 11, 4821 2020 .

[34] T. Kaneyasu, Y. Hikosaka, M. Fujimoto, H. Iwayama, M. Katoh: “Polarization control in a crossed undulator without a monochromator”, *New J. Phys.* **22**, 83062 2020 .

[35] Y. Taira, M. Fujimoto, S. E. Ri, M. Hosaka, M. Katoh: “Measurement of the phase structure of elliptically polarized undulator radiation”, *New J. Phys.* **22**, 93061 13p 2020 .

[36] C. W. Nicholson, E. F. Schwier, K. Shimada, H. Berger, M. Hoesch, C. Berthod, and C. Monney: “Role of a higher-dimensional interaction in stabilizing charge density waves in quasi-one-dimensional $NbSe_3$ revealed by angle-resolved photoemission spectroscopy”, *Phys. Rev. B* **101**, 45412 11p 2020 .

[37] K. Taguchi, K. Sumida, Y. Okuda, K. Miyamoto, A. Kimura, T. Oguchi, T. Okuda: “Spectroscopic evidence of quasi-one-dimensional metallic Rashba spin-split states on the Si(111)5x2-Au surface”, *Phys. Rev. B* **101**, 45430 8p 2020 .

[38] D. Geng, K. Yu, S. Yue, J. Cao, W. Li, D. Ma, C. Cui, M. Arita, S. Kumar, E. F. Schwier, K. Shimada, P. Cheng, L. Chen, K. Wu, Y. Yao, B. Feng: “Experimental evidence of monolayer AlB

and $TlBiSe_2$", *Phys. Rev. B* **102**, 125151 7p 2020 .

[45] S. Yue, Y. Qian, M. Yang, D. Geng, C. Yi, S. Kumar, K. Shimada, P. Cheng, L. Chen, Z. Wang, H. Weng, Y. Shi, K. Wu, B. Feng: "Topological electronic structure in the antiferromagnet HoSbTe", *Phys. Rev. B* **102**, 155109 6p 2020 .

[46] S. Yue, H. Zhou, D. Geng, Z. Sun, M. Arita, K. Shimada, P. Cheng, L. Chen, S. Meng, K. Wu, B. Feng: "Experimental observation of Dirac cones in artificial graphene lattices", *Phys. Rev. B* **102**, 201401R 5p 2020 .

[47] D. Yan, D. Geng, Q. Gao, Z. Cui, C. Yi, Y. Feng, C. Song, H. Luo, M. Yang, M. Arita, S. Kumar, E. F. Schwier, K. Shimada, L. Zhao, K. Wu, H. Weng, L. Chen, X. J. Zhou, Z. Wang, Y. Shi, B. Feng: "Superconductivity and Fermi-surface nesting in the candidate Dirac semimetal NbC ", *Phys. Rev. B* **102**, 205117 7p 2020 .

[48] H. Yamaoka, E. F. Schwier, Y. Yamamoto, M. Nakatake, M. Sawada, H. Sakurai, N. Tsujii, M. Arita, H. Iwasawa, M. Taguchi, K. Shimada, J. Mizuki: "Electronic and crystal structures of $(Na_{1-x}Ca_x)Cr_2O_4$ with anomalous colossal magnetoresistance", *Phys. Rev. B* **102**, 235150 11p 2020 .

[49] X.-Ming Ma, Z. Chen, E. F. Schwier, Y. Zhang, Y.-J. Hao, S. Kumar, R. Lu, J. Shao, Y. Jin, M. Zeng, X.-R. Liu, Z. Hao, Ke Zhang, W. Mansuer, C. Song, Y. Wang, B. Zhao, C. Liu, Ke Deng, J. Mei, K. Shimada, Y. Zhao, X. Zhou, B. Shen, W. Huang, C. Liu, Hu Xu, C. Chen: "Hybridization-induced gapped and gapless states on the surface of magnetic topological insulators", *Phys. Rev. B* **102**, 245136 11p 2020 .

[50] H. Anzai, S. Ishihara, K. Mimura, H. Sato, M. Arita, T. Zhuang, K. Hiraoka: "Abrupt change in hybridization gap at the valence transition of $YbInCu_4$", *Phys. Rev. Research* **2**, 33408 6p 2020 .

[51] X. Wu, J. Li, X.-M. Ma, Y. Zhang, Y. Liu, C.-S. Zhou, J. Shao, Q. Wang, Y.-J. Hao, Y. Feng, E. F. Schwier, S. Kumar, H. Sun, P. Liu, K. Shimada, K. Miyamoto, T. Okuda, K. Wang, M. Xie, C. Chen, Q. Liu, C. Liu, Y. Zhao: "Distinct topological surface states on the two terminations of $MnBi_4Te_7$", *Phys. Rev. X* **10**, 31013 10p 2020 .

[52] M. Sakano, M. Hirayama, T. Takahashi, S. Akebi, M. Nakayama, K. Kuroda, K. Taguchi, T. Yoshikawa, K. Miyamoto, T. Okuda, K. Ono, H. Kumigashira, T. Ideue, Y. Iwasa, N. Mitsuishi, K. Ishizaka, S. Shin, T. Miyake, S. Murakami, T. Sasagawa, T. Kondo: "Radial spin texture in elemental tellurium with chiral crystal structure", *Phys. Rev. Lett.* **124**, 136404 5p 2020 .

[53] D. Y. Usachov, I. A. Nechaev, G. Poelchen, M. Güttler, E. E. Krasovskii, S. Schulz, A. Generalov, K. Kliemt, A. Kraiker, C. Krellner, K. Kummer, S. Danzenbächer, C. Laubschat, A. P. Weber, J. Sánchez-Barriga, E. V. Chulkov, A. F. Santander-Syro, T. Imai, K. Miyamoto, T. Okuda, D. V. Vyalikh: "Cubic Rashba effect in the surface spin structure of rare-earth ternary materials", *Phys. Rev. Lett.* **124**, 237202 6p 2020 .

[54] K. R. Koswattage, Y. Izumi, K. Nakagawa: "Optical absorption cross-section of DNA bases-thymine and guanine-in the energy region from 3.1 to 250 eV (5-400 nm)", *Quantum Beam Sci.* **4**, 30 2020 .

[55] H. Sato, T. Nagasaki, K. Suekuni, H. I. Tanaka, sar 7 ' Tnaak g K s ĭ

repulsion accelerates a metal-insulator transition in topological semimetal nanofilms", *Sci. Adv.* **6**, eaaz5015 7p 2020 .

[57] D. Ootsuki, K. Kodera, D. Shimonaka, M. Arita, H. Namatame, M. Taniguchi, M. Minohara, K. Horiba, H. Kumigashira, E. Ikenaga, A. Yasui, Y. Uchimoto, S. Toyoda, M. Morita, K. Fukuda, T. Yoshida: "Thickness-induced metal to insulator transition in Ru nanosheets probed by photoemission spectroscopy: Effects of disorder and Coulomb interaction", *Sci. Rep.* **10**, 1541 7p 2020 .

[58] A. M. Shikin, D. A. Estyunin, I. I. Klimovskikh, S. O. Filnov, E. F. Schwier, S. Kumar, K. Miyamoto, T. Okuda, A. Kimura, K. Kuroda, K. Yaji, S. Shin, Y. Takeda, Y. Saitoh, Z. S. Aliev, N. T. Mamedov, I. R. Amiraslanov, M. B. Babanly, M. M. Otrokov, S. V. Eremeev, E. V. Chulkov: "Nature of the Dirac gap modulation and surface magnetic interaction in axion antiferromagnetic topological insulator $MnBi_2Te_4$", *Sci. Rep.* **10**, 13226 13p 2020 .

[1] M. Kumashiro, K. Matsuo: "Effect of lipid spontaneous curvature and membrane fluidity on magainin 2-induced pore formation characterized by synchrotron radiation circular dichroism Spectroscopy", Molecular Chirality Asia, Tokyo, Japan, 2020.10.31-11.2

[2] Y. Izumi: "An application of vacuum ultraviolet circular dichroism spectroscopy to radiation biology: secondary structural analyses of histone proteins", The 25th Hiroshima International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021.3.4-5

[3] R. Lu, S. Kumar, Y. Wang, M. Zeng, Y.-J. Hao, X.-M. Ma, Z. Hao, K. Zhang, W. Mansuer, C. Liu, K. Deng, K. Shimada, E. F. Schwier, C. Liu, Q. Liu, C. Chen: "Half-magnetic topological insulator with magnetization induced Dirac gap at a selected surface", The 25th Hiroshima International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021.3.4-5

[4] K. Zhang, S. Kumar, E. F. Schwier, K. Miyamoto, T. Okuda, K. Shimada: "Observation of spin-momentum-layer locking in a centrosymmetric crystal", The 25th Hiroshima International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021. 3.4-5

[5] S. Ozawa, H. Iwasawa, H. Oda, T. Yoshikawa, A. Kimura, M. Hashimoto, D. Lu, T. Muro, Y. Yoshida, I. Hase, Y. Aiura, S. Kumar, K. Shimada: "Low-energy electron-boson coupling in Sr_2RuO_4", The 25th Hiroshima International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021.3.4-5

[6] H. Oda, H. Iwasawa, T. Miyashita, S. Ozawa, A. Kimura, R. Yano, S. Kashiwaya, T. Sasagawa, S. Kumar, E. F. Schwier, K. Shimada: "Optimization of self-energy in high-T_c cuprate superconductor $La_{2-x}Sr_xCuO_4$", The 25th Hiroshima International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021.3.4-5

[7] T. Sugiyama, H. Iwasawa, S. Ozawa, H. Oda, T. Kono, T. Okuda, K. Miyamoto, S. Ishida, Y. Yoshida, S. Eisaki, A. Kimura: "Gap inhomogeneity in $Bi_2Sr_2CaCu_2O_{8+d}$ revealed by laser microARPES", The 25th Hiroshima International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021.3.4-5

[8] S. Hosokawa, J. R. Stellhorn, H. Sato, J. Jiang, H. Kato: "Electronic structures and chemical natures of inhomogeneous Gd-TM (TM = Co, Ni, and Cu) metallic glasses", The 25th Hiroshima

International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021.3.4-5

[9] M. Arita, E. F. Eike, H. Sato, K. Shimada, T. Kanomata: “ARPES study of the mechanically polished FeSi [001] surface”, The 25th Hiroshima International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021.3.4-5

[10] Y. Fukushima, T. Yoshikawa, T. Miyashita, K. Shiraishi, M. Arita, K. Mitsumoto, H. Tanida, A. Kimura: “Electronic structures of antiferromagnet CeCoSi revealed by VUV-ARPES”, The 25th Hiroshima International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021.3.4-5

[11] K. Shiraishi, M. Novak, T. Yoshikawa, T. Kono, S. Kumar, K. Miyamoto, T. Okuda, E. F. Schwier, M. Arita, K. Shimada, S. V. Eremeev, A. Kimura: “ARPES study of antiferromagnetic $EuIn_2As_2$”, The 25th Hiroshima International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021.3.4-5

[12] K. Ohwada, T. Kono, S. Ushio, K. Goto, K. Miyamoto, T. Okuda, H. Nakayama, Y. Sakuraba, A. Kimura: “Spin-polarized band structures of Ga-rich Fe_3Ga film as a promising material for high thermoelectric performance”, The 25th Hiroshima International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021.3.4-5

[13] M. Kumashiro, K. Matsuo: “Circular dichroism study of magainin 2-membrane interaction: evidence for β-strand formation upon membrane association”, The 25th Hiroshima International Symposium on Synchrotron Radiation, Higashi-Hiroshima, Japan, 2021.3.4-5

[14] R. Tsuji, M. Kumashiro, K. Matsuo: “Study of membrane-bound conformation and pore formation

[1] _____ 34
, 2021 1 8 -10

[2] _____
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[3] _____ HiSOR ELPH Symposium
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[1] S. Suenaga, M. Kumashiro, K. Matsuo Effect of membrane thickness on magainin 2-induced pore formation characterized by vacuum-ultraviolet circular-dichroism and linear-dichroism spectroscopy 20 2020 7 6 -9 , ,

[2] R. Imaura, M. Kumashiro, Y. Kawata, K. Matsuo Study on membrane-interaction site of alpha-synuclein using vacuum-ultraviolet circular-dichroism spectroscopy and molecular dynamics simulation 20 2020 7 6 -9 , ,

[3] K. Matsuo, M. Kumashiro, K. Gekko Interaction mechanism between alpha1-acid glycoprotein and membrane characterized by vacuum-ultraviolet circular-dichroism spectroscopy 20
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[4] , Mario Novak, , , Shiv Kumar, _____, _____, Eike F. Schwier, _____, Sergey V. Eremeev, _____ $EuIn_2As_2$
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[5] , , , , , , Shiv Kumar, E. F. Schwier, _____, , Donghui Lu, _____ ARPES $La_{2-x}Sr_xCuO_4$ 2020 , 2020 9 8 -11

[6] , , , , _____, Shiv Kumar, _____, , , ARPES Sr_2RuO_4
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[7] , , , Wumiti Mansuer, Eike F. Schwier, _____, _____, , , , , , , , A15 Nb_3Sn Nb_3Al
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[8] , , , , , , , , , Shiv Kumar, Eike F. Schwier, _____, N. L. Saini CaKFe4As4
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[9] , , , , Shiv Kumar, Eike F. Schwier, _____, N. L. Saini, $NaSn_2As_2$ 2020 , 2020 9 8 -11

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[17] ○ , , , , _____, , , , _____, , , , Yb $YbCuS_2$ 2020 , 2020 9 8 -11

[18] , , , , , , , , , Shiv Kumar, Eike F. Schwier, _____, N. L. Saini $CaKFe_4As_4$ 2020 , 2020 9 8 -11

[19] , Antonov Victor, , , Wang Xiaoxiao, , _____, , , , , , Ernst Arthur, _____ $Co_2MnGe(Ga)$ $Ge(Ga)$ $L_{2,3}$ II 2020 , 2020 9 8 -11

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[1] Revealing the electronic structure of n-doped axion insulator EuIn2As2 , Ke Deng

[2] High-resolution ARPES study on magnetic topological insulators Mn(Bi1-xSbx)4Te7 , Chang Liu

[3] High-resolution ARPES study on magnetic topological insulators Mn(Bi1-xSbx)2Te4 , Chang Liu

[4] Spin-orbit-induced splitting of the Tamm surface state of Re(0001) , Markus Donath

[5] Probing a new type of spin-splitting effect in antiferromagnets , Chang Liu

[6] Band Structure Investigation of iron superconductor Ba0.6K0.4Fe2As2 , Xingjiang Zhou

[7] Spin-ARPES study of topological band structures in Ca2Pd3Sb4 , Wu Shilong

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7 ALICE Run 3

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15 IXPE

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28 SuperKEKB

29 ErNiAl

30 AI-
Feynman
31 $NdIr_2Zn_{20}$

32 LHC

33 CeS
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$Fe_{55}Ni_{45}$
35 RAgSe$_2$ (R = Dy, Ho, Er, Yb)

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37 ALICE μ J/
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40 X $Ba(Ti_{1-x}Sn_x)O_3$
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43 X $CeCu_{6-x}Au_x$
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46 Sb, Cs, K O2 GaAs

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CeCoSi

60 Effect of on-site Coulomb interaction on the electronic band structure of the Heusler alloy Co_2FeSi studied by ARPES

61 $YbCu_4Ni$

62 YbCuGe

63 X

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67 $Nd_{1-x}Y_xCo_2Zn_{20}$ Y

68 CUBES

69 Bi

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71 Ce

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