

LIST OF PUBLICATIONS

CREST "Electronic quantum phase control in nano-scale spin structures"
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FY : 2020

1. N. D. Khanh, T. Nakajima, X. Yu, S. Gao, K. Shibata, M. Hirschberger, Y. Yamasaki, H. Sagayama, H. Nakao, L. Peng, K. Nakajima, R. Takagi, T. Arima, Y. Tokura, and S. Seki, "Nanometric square skyrmion lattice in a centrosymmetric tetragonal magnet", *Nat. Nanotechnol.* 15, 444-449 (2020).
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2. Y. Fujishiro, N. Kanazawa, T. Shinmei, M. Nishi, T. Nakajima, T. Arima, D. Hashizume, M. S. Bahramy, T. Irfune, and Y. Tokura, "Monoclinic semimetal IrSi synthesized under high pressure above 25 GPa: Crystal structure, electronic, and magnetic properties", *Phys. Rev. Mater.* 4, 055002 (2020).
DOI : 10.1103/PhysRevMaterials.4.055002
3. Hiroaki Ishizuka and Naoto Nagaosa, "Anomalous electrical magnetochiral effect by chiral spin-cluster scattering", *Nature Communications* 11, 2986-1-6 (2020)
DOI : 10.1038/s41467-020-16751-2
4. N. Kanazawa, A. Kitaori, J. S. White, V. Uklev, H. M. Rønnow, A. Tsukazaki, M. Ichikawa, M. Kawasaki, and Y. Tokura, "Direct Observation of the Statics and Dynamics of Emergent Magnetic Monopoles in a Chiral Magnet", *Phys. Rev. Lett.* 125, 137202 (2020).
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5. Xing Yang, Jing-Jing Xian, Gang Li, Naoto Nagaosa, Wen-Hao Zhang, Le Qin, Zhi-Mo Zhang, Jing-Tao Lü, and Ying-Shuang Fu, "Possible Phason-Polaron Effect on Purely One-Dimensional Charge Order of Mo₆Se₆ Nanowires", *Phys. Rev. X* 10, 031061-1-8 (2020)
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7. Kou Misaki and Naoto Nagaosa, "Suppression of superfluidity by dissipation: An application to failed superconductors", Phys. Rev. B 102, 104515-1-7 (2020)
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8. M. Hirschberger, L. Spitz, T. Nomoto, T. Kurumaji, S. Gao, J. Masell, T. Nakajima, A. Kikkawa, Y. Yamasaki, H. Sagayama, H. Nakao, Y. Taguchi, R. Arita, T. Arima, and Y. Tokura, "Topological Nernst Effect of the Two-Dimensional Skyrmion Lattice", Phys. Rev. Lett. 125, 076602 (2020)
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9. X. Z. Yu, D. Morikawa, K. Nakajima, K. Shibata, N. Kanazawa, T. Arima, N. Nagaosa, and Y. Tokura, "Motion tracking of 80-nm-size skyrmions upon directional current injections", Sci. Adv. 6, eaaz9744 (2020).
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10. K. Karube, J. S. White, V. Ukleev, C. D. Dewhurst, R. Cubitt, A. Kikkawa, Y. Tokunaga, H. M. Rønnow, Y. Tokura, and Y. Taguchi, "Metastable skyrmion lattices governed by magnetic disorder and anisotropy in beta-Mn-type chiral magnets", Phys. Rev. B 102, 064408 (2020).
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11. S. Sugimoto, W. Koshibae, S. Kasai, N. Ogawa, Y. Takahashi, N. Nagaosa, and Y. Tokura, "Nonlocal accumulation, chemical potential, and Hall effect of skyrmions in Pt/Co/Ir heterostructure", Sci. Rep. 10, 1009 (2020).
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12. K. Yasuda, T. Morimoto, R. Yoshimi, M. Mogi, A. Tsukazaki, M. Kawamura, K. S. Taka- hashi, M. Kawasaki, N. Nagaosa, and Y. Tokura, "Large non-reciprocal charge transport mediated by quantum anomalous Hall edge states", Nat. Nanotechnol. 15, 831–835 (2020).

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13. C. Back, V. Cros, H. Ebert, K. Everschor-Sitte, A. Fert, M. Garst, Tianping Ma, S. Mankovsky, T. L. Monchesky, M. Mostovoy, N. Nagaosa, S. S. P. Parkin, C. Pfleiderer, N. Reyren, A. Rosch, Y. Taguchi, Y. Tokura, K. von Bergmann, and Jiadong Zang, "The 2020 skyrmionics roadmap", *J. Phys. D: Appl. Phys.* 53, 363001 (2020).

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17. F. S. Yasin, L. Peng, R. Takagi, N. Kanazawa, S. Seki, Y. Tokura, X. Yu, "Bloch Lines Constituting Antiskyrmions Captured via Differential Phase Contrast", *Adv. Mater.* 32, 2004206 (2020)

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19. Enze Zhang, Xian Xu, Yi-Chao Zou, Linfeng Ai, Xiang Dong, Ce Huang, Pengliang Leng, Shanshan Liu, Yuda Zhang, Zehao Jia, Xinyue Peng, Minhao Zhao, Yunkun Yang, Zihan Li, Hangwen Guo, Sarah J. Haigh, Naoto Nagaosa, Jian Shen and Faxian Xiu, "Nonreciprocal superconducting NbSe₂ antenna", *NATURE COMMUNICATIONS*, 11, 5634 (2020)
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24. Y. Yasui, C. J. Butler, N. D. Khanh, S. Hayami, T. Nomoto, T. Hanaguri, Y. Motome, R. Arita, T. Arima, Y. Tokura, and S. Seki, "Imaging the coupling between itinerant electrons and localised moments in the centrosymmetric skyrmion magnet GdRu₂Si₂", *Nat. Commun.* 11, 5925 (2020)
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27. Taro Nakajima, Tatsuro Oda, Masahiro Hino, Hitoshi Endo, Kazuki Ohishi, Kazuhisa Kakurai, Akiko Kikkawa, Yasujiro Taguchi, Yoshinori Tokura, and Taka-hisa Arima, "Crystallization of magnetic skyrmions in MnSi investigated by neutron spin echo spectroscopy", Phys. Rev. Research 2, 043393 (2020).
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30. Xiao-Xiao Zhang and Naoto Nagaosa, "Dissipative Berry phase effect in quantum tunneling" Phys. Rev. B 102, 245426 (2020)
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31. Y. Fujishiro, N. Kanazawa, Ryosuke Kurihara, Hiroaki Ishizuka, Tomohiro Hori, Femi Sami Yasin, Xiuzhen Yu, Atsushi Tsukazaki, Masakazu Ichikawa, Masashi Kawasaki, Naoto Nagaosa, Masashi Tokunaga and Y. Tokura, "Giant anomalous Hall effect from spin-chirality scattering in a chiral magnet", Nature Communications 12, 317 (2021)
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33. Nitish Mathur, Fehmi S. Yasin, Matthew J. Stolt, Takuro Nagai, Koji Kimoto, Haifeng Du, Mingliang Tian, Yoshinori Tokura, Xiuzhen Yu, and Song Jin, "In - Plane Magnetic Field - Driven Creation and Annihilation of Magnetic Skyrmion Strings in Nanostructures", Adv. Funct. Mater. (2021).
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