

Publications in refereed scientific journals:

- (649) M. Gutzeit, A. Kubetzka, S. Haldar, H. Pralow, R. Wiesendanger, S. Heinze, and K. von Bergmann, *Nature Commun.* (2022), accepted:
"Nano-scale collinear multi-Q states driven by higher-order interactions".
- (648) J. J. Goedecke, L. Schneider, Y. Ma, K. Ton That, D. Wang, J. Wiebe, and R. Wiesendanger, *ACS Nano* (2022), accepted:
"Correlation of magnetism and disordered Shiba bands in Fe monolayer islands on Nb(110)".
- (647) X. Huang, R. Xiong, K. Volckaert, C. Hao, D. Biswas, M. Bianchi, Ph. Hofmann, Ph. Beck, J. Warmuth, B. Sa, J. Wiebe, and R. Wiesendanger, *Advanced Functional Materials* 2208281 (2022):
"Experimental realization of semiconducting monolayer Si₂Te₂ films".
- (646) G. Chen, C. Ophus, R. Lo Conte, R. Wiesendanger, G. Yin, A. K. Schmid, and K. Liu, *Nano Lett.* 22, 6678 (2022):
"Ultrasensitive sub-monolayer Pd induced chirality switching and topological evolution of skyrmions".
- (645) E. Y. Vedmedenko and R. Wiesendanger, *npj Sci. Rep.* 12, 13608 (2022):
"Spin revolution breaks time reversal symmetry of rolling magnets".
- (644) P. Siegl, M. Stier, A. F. Schäffer, E. Y. Vedmedenko, Th. Posske, R. Wiesendanger, and M. Thorwart, *Phys. Rev. B* 106, 014421 (2022):
"Creating arbitrary sequences of mobile magnetic skyrmions and antiskyrmions".
- (643) R. Brüning, A. Kubetzka, K. von Bergmann, E. Vedmedenko, and R. Wiesendanger, *Phys. Rev. B* 105, L241401 (2022):
"Nanoscale skyrmions on a square atomic lattice".
- (642) T. Matthies, A. Schäffer, Th. Posske, R. Wiesendanger, and E. Vedmedenko, *Phys. Rev. Appl.* 17, 054022 (2022):
"Topological characterization of dynamic chiral magnetic textures using machine learning".

- (641) J. Neuhaus-Steinmetz, E. Vedmedenko, Th. Posske, and R. Wiesendanger, Phys. Rev. B 105, 165415 (2022):
"Complex magnetic ground states and topological electronic phases of atomic spin chains on superconductors".
- (640) L. Schneider, Ph. Beck, J. Neuhaus-Steinmetz, L. Rozsa, Th. Posske, J. Wiebe and R. Wiesendanger, Nature Nanotechnol. 17, 384 (2022):
"Precursors of Majorana modes and their length-dependent energy oscillations probed at both ends of atomic Shiba chains".
- (639) R. Lo Conte, M. Bazarnik, K. Palotás, L. Rozsa, L. Szunyogh, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, Phys. Rev. B 105, L100406 (2022):
"Coexistence of antiferromagnetism and superconductivity in Mn/Nb(110)".
- (638) Ph. Beck, L. Schneider, L. Bachmann, J. Wiebe, and R. Wiesendanger, Phys. Rev. Mater. 6, 024801 (2022):
"Structural and superconducting properties of ultrathin Ir films on Nb(110)".
- (637) J. Spethmann, E. Vedmedenko, R. Wiesendanger, A. Kubetzka, and K. von Bergmann, Commun. Phys. 5, 19 (2022):
"Zero-field skyrmionic states and in-field edge-skyrmions induced by boundary tuning".
- (636) M. Przychodnia, M. Hermanowicz, E. Sierda, M. Elsebach, T. Grzela, R. Wiesendanger, and M. Bazarnik, Phys. Rev. B 105, 035416 (2022):
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