

Scanning Probe Methods Group, Prof. Dr. Roland Wiesendanger

Publications: Original Articles

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Effects of interlayer Dzyaloshinskii-Moriya interaction on the shape and dynamics of magnetic twin-skyrmions*T. Matthies, L. Rózsa, R. Wiesendanger, and E. Y. Vedmedenko*, npj Spintronics **4** 8 (2026)**Non-local detection of coherent Yu–Shiba–Rusinov quantum projections***K. T. Ton, C. Xu, I. Ioannidis, L. Schneider, T. Posske, R. Wiesendanger, D. K. Morr, and J. Wiebe*, Nature Physics **22** 54-60 (2026)**Strain-driven domain wall network with chiral junctions in an antiferromagnet***V. Saxena, M. Gutzeit, A. Rodriguez-Sota, S. Haldar, F. Zahner, R. Wiesendanger, A. Kubetzka, S. Heinze, and K. von Bergmann*, Nature Commun. **16** 10808 (2025)**Electronic properties of magnetic salophenes adsorbed on Ag(111)***B. Pieczyrak, M. Elsebach, L. Jurczyszyn, A. Schlenhoff, R. Wiesendanger, and M. Bazarnik*, J. Phys. Chem. C **129** 19917 (2025)**The non-collinear path to two-dimensional topological superconductivity***R. Brüning, J. Bedow, R. Lo Conte, K. von Bergmann, D. K. Morr, and R. Wiesendanger*, ACS Nano **19** 36215 (2025)**Symmetry aspects of Yu-Shiba-Rusinov bands in magnetic atomic chains on a superconductor***B. Nyári, Ph. Beck, A. Lászlóffy, L. Schneider, K. Palotás, L. Szunyogh, J. Wiebe, B. Újfalussy, and L. Rózsa*, Phys. Rev. B **112** 115414 (2025)**Image-potential states on a 2D graphene-ferromagnet hybrid: Enhancing spin and stacking sensing***M. Bazarnik and A. Schlenhoff*, ACS Nano **19** 25812 (2025)**Anisotropic atom motion on a row-wise antiferromagnetic surface***F. Zahner, S. Haldar, R. Wiesendanger, S. Heinze, K. von Bergmann, and A. Kubetzka*, Nature Communications **16** 4942 (2025)**Topological meron-antimeron domain walls and skyrmions in a low-symmetry system***R. Brüning, L. Rózsa, R. Lo Conte, A. Kubetzka, R. Wiesendanger, and K. von Bergmann*, Phys. Rev. X **15** 021041 (2025)**Antiferromagnetic order of topological orbital moments in atomic-scale skyrmion lattices***F. Nickel, A. Kubetzka, M. Gutzeit, R. Wiesendanger, K. von Bergmann, and S. Heinze*, npj Spintronics **3** 7 (2025)**Growth of an Fe buckled honeycomb lattice on Be(0001)***H. Osterhage, A. H. Khan, K. Oetker, R. Dao, S. Setayandeh, R. Wiesendanger, P. Burr, and S. Krause*, Surface Science **752** 122609 (2025)**Boundary conditions for and ferromagnetic resonance spectra of magnetic bilayers coupled by interlayer Dzyaloshinskii-Moriya interactions***E. Y. Vedmedenko, and M. Kostylev*, Phys. Rev. App. **23** 014047 (2025)**Majorana quasiparticles in atomic spin chains on superconductors***S. Rachel and R. Wiesendanger*, Physics Reports **1099** 1 (2025)**Preparation and readout of Majorana qubits in magnet-superconductor hybrid systems***D. Crawford, R. Wiesendanger, and S. Rachel*, Phys. Rev. B **110** L220505 (2024)**Interlayer and interfacial Dzyaloshinskii-Moriya interaction in magnetic trilayers: First-principles calculations***T. Matthies, L. Rózsa, L. Szunyogh, R. Wiesendanger, and E. Y. Vedmedenko*, Phys. Rev. Res. **6** 043158 (2024)**Magnet-superconductor hybrid quantum systems: a materials platform for topological superconductivity***R. Lo Conte, J. Wiebe, S. Rachel, D.K. Morr, and R. Wiesendanger*, La Rivista del Nuovo Cimento **47** (Issue 8 453-554 (2024)**Proximity-Induced Superconductivity in a 2D Kondo Lattice of an f-Electron-Based Surface Alloy***H. Kim, D. K. Morr, and R. Wiesendanger*, Nano Letters **24** 13875-14152 (2024)**Skyrmion dynamics in attractive and repulsive local magnetic fields***L. Reimers, A. F. Schäffer, E. Y. Vedmedenko, R. Lo Conte, J. Appl. Phys.* **136** 135302 (2024)

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