

Scanning Probe Methods Group, Prof. Dr. Roland Wiesendanger

Publications: Original Articles

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Spin-polarized edge modes between different magnet-superconductor-hybrids*F. Zahner, F. Nickel, R. Lo Conte, T. Drevelow, R. Wiesendanger, S. Heinze, and K. von Bergmann, Nature Commun. 17 3457 (2026)***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)*

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