

Scanning Probe Methods Group, Prof. Dr. Roland Wiesendanger

**Publications: Original Articles**

Date of issue: 2026-04-14

**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)*

**Scanning tunneling spectroscopy study of proximity superconductivity in finite-size quantized surface states**

*L. Schneider, Ch. von Bredow, H. Kim, K. That Ton, T. Hänke, J. Wiebe, and R. Wiesendanger, Phys. Rev. B* **110** L100505 (2024)

**Large diversity of magnetic phases in two-dimensional magnets with spin-orbit coupling and superconductivity**

*J. Neuhaus-Steinmetz, T. Matthies, E. Y. Vedmedenko, Th. Posske, and R. Wiesendanger, Phys. Rev. B* **110** 155427 (2024)

**SP-STM study of the multi-Q phases in GdRu<sub>2</sub>Si<sub>2</sub>**

*J. Spethmann, N. D. Khanh, H. Yoshimochi, R. Takagi, S. Hayami, Y. Motome, R. Wiesendanger, S. Seki, and K. von Bergmann, Phys. Rev. Mater.* **8** 064404 (2024)

**Experimental Realization of Monolayer alpha-Tellurene**

*X. Huang, R. Xiong, C. Hao, W. Li, B. Sa, J. Wiebe, and R. Wiesendanger, Advanced Materials* **36** 2309023 (2024)

**Two-dimensional lateral heterojunction arrays with tailored interface band bending**

*X. Huang, R. Xiong, C. Hao, P. Beck, B. Sa, J. Wiebe, and R. Wiesendanger, Advanced Materials* **36** 2308007 (2024)

**Phase Coexistence of Mn Trimer Clusters and Antiferromagnetic Mn Islands on Ir(111)**

*A. Rodríguez-Sota, V. Saxena, J. Spethmann, R. Wiesendanger, R. Lo Conte, A. Kubetzka, and K. von Bergmann, ACS Nano* **2024** **18** (4) 3699–3706 (2024)

**Coupling of the triple-q state to the atomic lattice by anisotropic symmetric exchange**

*F. Nickel, A. Kubetzka, S. Haldar, R. Wiesendanger, S. Heinze, and K. von Bergmann, Phys. Rev. B* **108** L180411 (2023)

**Large interlayer Dzyaloshinskii-Moriya interactions across Ag-layers**

*J. A. Arregi, P. Riego, A. Berger, and E. Y. Vedmedenko, Nature Communications* **14** 6927 (2023)

**Observation and formation mechanism of 360° domain wall rings in synthetic anti-ferromagnets with interlayer chiral interactions**

*M. A. Cascales Sandoval, A. Hierro-Rodríguez, S. Ruiz-Gómez, L. Skoric, C. Donnelly, M. A. Niño, E. Y. Vedmedenko, D. McGrouther, S. McVitie, S. Flewett, N. Jaouen, M. Foerster, and A. Fernández-Pacheco, Appl. Phys. Lett.* **123** 172407 (2023)

**Quantum skyrmion Hall effect in f-electron systems**

*R. Peters, J. Neuhaus-Steinmetz, and Th. Posske, Phys. Rev. Res.* **5** 033180 (2023)

**Topological nodal point superconductivity in checkerboard magnet-superconductor hybrid systems**

*T. Kieu, E. Mascot, J. Bedow, R. Wiesendanger, and D. K. Morr, Phys. Rev. B* **108** L060509 (2023)

**STM study of Nb(111) prepared by different methods**

*J. Goedecke, M. Bazarnik, and R. Wiesendanger, Phys. Rev. Materials* **7** 084803 (2023)

**Proximity superconductivity in atom-by-atom crafted quantum dots**

*L. Schneider, K. That Ton, I. Ioannidis, J. Neuhaus-Steinmetz, Th. Posske, R. Wiesendanger, and J. Wiebe, Nature* **621** 60 (2023)

**Probing the topologically trivial nature of end states in antiferromagnetic atomic chains on superconductors**

*L. Schneider, Ph. Beck, L. Rozsa, Th. Posske, J. Wiebe and R. Wiesendanger, Nature Commun.* **14** 2742 (2023)

**Search for large topological gaps in atomic spin chains on proximitized superconducting heavy-metal layers**

*Ph. Beck, B. Nyári, L. Schneider, L. Rózsa, A. Lászlóffy, K. Palotás, L. Szunyogh, B. Ujfalussy, J. Wiebe, and R. Wiesendanger, Communications Physics* **6** 83 (2023)

**Increased localization of Majorana modes in antiferromagnetic chains on superconductors**

*D. Crawford, E. Mascot, M. Shimizu, R. Wiesendanger, D. K. Morr, H. O. Jeschke, and S. Rachel, Phys. Rev. B* **107** 075410 (2023)

**Antiferromagnetism-driven two-dimensional topological nodal-point superconductivity**

*M. Bazarnik, R. Lo Conte, E. Mascot, K. von Bergmann, D. K. Morr, and R. Wiesendanger, Nature Commun.* **14** 614 (2023)

**Systematic study of Mn atoms, artificial dimers, and chains on superconducting Ta(110)**

*P. Beck, L. Schneider, R. Wiesendanger, and J. Wiebe, Phys. Rev. B* **107** 024426 (2023)

**Majorana modes with side features in magnet-superconductor hybrid systems**

*D. Crawford, E. Mascot, M. Shimizu, L. Schneider, Ph. Beck, J. Wiebe, R. Wiesendanger, H. O. Jeschke, D. K. Morr, and S. Rachel, npj Quantum Materials* **7** 117 (2022)

**Nano-scale collinear multi-Q states driven by higher-order interactions**

*M. Gutzeit, A. Kubetzka, S. Haldar, H. Pralow, M. A. Goerzen, R. Wiesendanger, S. Heinze, and K. von Bergmann*, Nature Communications **13** 5764 (2022)

**Experimental realization of semiconducting monolayer Si<sub>2</sub>Te<sub>2</sub> films**

*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)

**Correlation of magnetism and disordered Shiba bands in Fe monolayer islands on Nb(110)**

*J. J. Goedecke, L. Schneider, Y. Ma, K. Ton That, D. Wang, J. Wiebe, and R. Wiesendanger*, ACS Nano **16** 14066 (2022)

**Spin revolution breaks time reversal symmetry of rolling magnets**

*E. Y. Vedmedenko and R. Wiesendanger*, npj Scientific Reports **12** 13608 (2022)

**Ultrasensitive Sub-monolayer Palladium Induced Chirality Switching and Topological Evolution of Skyrmions**

*G. Chen, C. Ophus, R. Lo Conte, R. Wiesendanger, G. Yin, A. K. Schmid, and K. Liu*, Nano Letters **22** 6678 (2022)

**Creating arbitrary sequences of mobile magnetic skyrmions and antiskyrmions**

*P. Siegl, M. Stier, A. F. Schäffer, E. Y. Vedmedenko, Th. Posske, R. Wiesendanger, and M. Thorwart*, Phys. Rev. B **106** 014421 (2022)

**Nanoscale skyrmions on a square atomic lattice**

*R. Brüning, A. Kubetzka, K. von Bergmann, E. Vedmedenko, and R. Wiesendanger*, Phys. Rev. B **105** L241401 (2022)

**Topological characterization of dynamic chiral magnetic textures using machine learning**

*T. Matthies, A. Schäffer, Th. Posske, R. Wiesendanger, and E. Vedmedenko*, Phys. Rev. Appl. **17** 054022 (2022)

**Controlled creation of quantum skyrmions**

*P. Siegl, E. Y. Vedmedenko, M. Stier, M. Thorwart, and T. Posske*, Phys. Rev. Res. **4** 023111 (2022)

**Complex magnetic ground states and topological electronic phases of atomic spin chains on superconductors**

*J. Neuhaus-Steinmetz, E. Y. Vedmedenko, T. Posske, and R. Wiesendanger*, Phys. Rev. B **105** 165415 (2022)

**Coexistence of antiferromagnetism and superconductivity in Mn/Nb(110)**

*R. Lo Conte, M. Bazarnik, K. Palotás, L. Rózsa, L. Szunyogh, A. Kubetzka, K. von Bergmann, and R. Wiesendanger*, Phys. Rev. B **105** L100406 (2022)

**Precursors of Majorana modes and their length-dependent energy oscillations probed at both ends of atomic Shiba chains**

*Lucas Schneider, Philip Beck, Jannis Neuhaus-Steinmetz, Levente Rózsa, Thore Posske, Jens Wiebe, and Roland Wiesendanger*, Nature Nanotechnology **17** 384 (2022)

**Structural and superconducting properties of ultrathin Ir films on Nb(110)**

*Ph. Beck, L. Schneider, L. Bachmann, J. Wiebe, and R. Wiesendanger*, Phys. Rev. Materials **6** 024801 (2022)

**Controlled growth of Gd-Pt surface alloys on Pt(111)**

*M. Przychodnia, M. Hermanowicz, E. Sierda, M. Elsebach, T. Grzela, R. Wiesendanger, and M. Bazarnik*, Phys. Rev. B **105** 035416 (2022)

**Zero-field skyrmionic states and in-field edge-skyrmions induced by boundary tuning**

*J. Spethmann, E. Vedmedenko, R. Wiesendanger, A. Kubetzka, and K. von Bergmann*, npj Commun. Phys. **5** 19 (2022)

**Disorder-induced time effect in the antiferromagnetic domain state of Fe<sub>1+y</sub>Te**

*J. Fikacek, J. Warmuth, F. Arnold, C. Piamonteze, Z. Mao, V. Holy, Ph. Hofmann, M. Bremholm, J. Wiebe, R. Wiesendanger, and J. Honolka*, J. Magn. Magn. Mater. **540** 168426 (2021)

**Distorted 3Q state driven by topological-chiral magnetic interactions**

*S. Haldar, S. Meyer, A. Kubetzka, and S. Heinze*, Phys. Rev. B **104** L180404 (2021)

**Anisotropic non-split zero-energy vortex bound states in a conventional superconductor**

*H. Kim, Y. Nagai, L. Rózsa, D. Schreyer, and R. Wiesendanger*, Appl. Phys. Rev. **8** 031417 (2021)

**Discovery and characterization of a new type of domain wall in a row-wise antiferromagnet**

*J. Spethmann, M. Grünebohm, R. Wiesendanger, K. von Bergmann, and A. Kubetzka*, Nature Communications **12** 3488 (2021)

**Surface orbital order and chemical potential inhomogeneity of the iron-based superconductor FeTe<sub>0.55</sub>Se<sub>0.45</sub> investigated with special STM tips**

*D. Wang, R. Zhong, G. Gu, and R. Wiesendanger, Phys. Rev. Research* **3** L032055 (2021)

**Precise measurement of the configurational energy of bent graphene membranes via three-dimensional force field spectroscopy**

*M. Ashino, K. Nishioka, K. Hayashi, and R. Wiesendanger, Phys. Rev. B* **104** 085407 (2021)

**Correlation of Yu–Shiba–Rusinov States and Kondo Resonances in Artificial Spin Arrays on an s-Wave Superconductor**

*A. Kamlapure, L. Cornils, R. Žitko, M. Valentyuk, R. Mozara, S. Pradhan, J. Fransson, A. I. Lichtenstein, J. Wiebe, and R. Wiesendanger, Nano Letters* **21** 6748 (2021)

**Spin-spiral state of a Mn monolayer on W(110) studied by soft x-ray absorption spectroscopy at variable temperature**

*J. Honolka, S. Krotzky, M. Herzog, T. Herden, V. Sessi, H. Ebert, J. Minar, K. von Bergmann, R. Wiesendanger, and O. Sjö, Phys. Rev. B* **103** 174419 (2021)

**Topological Shiba bands in artificial spin chains on superconductors**

*L. Schneider, P. Beck, T. Posske, D. Crawford, E. Mascot, S. Rachel, R. Wiesendanger and J. Wiebe, Nature Physics* **17** 943 (2021)

**Impact of magnetic domains on magnetic flux concentrators**

*F. Maspero, S. Cuccurullo, D. Mungpara, A. Schwarz, and R. Bertacco, J. Magn. Magn. Mater.* **535** 168072 (2021)

**Phonon-mediated tunneling into a two-dimensional electron gas on the Be(0001) surface**

*H. Osterhage, R. Wiesendanger and S. Krause, Phys. Rev. B* **103** 155428 (2021)

**Observation of hydrogen-induced Dzyaloshinskii-Moriya interaction and reversible switching of magnetic chirality**

*G. Chen, M.C. Robertson, M. Hoffmann, C. Ophus, A.L.F. Cauduro, R. Lo Conte, H. Ding, R. Wiesendanger, S. Blügel, A. K. Schmid, and K. Liu, Phys. Rev. X* **11** 021015 (2021)

**Anomalous Flexural Elasticities of Graphene Membranes Unveiled by Manipulating Topology**

*M. Ashino, K. Nishioka, K. Hayashi, and R. Wiesendanger, Phys. Rev. Lett.* **126** 146101 (2021)

**Spin-orbit coupling induced splitting of Yu-Shiba-Rusinov states in antiferromagnetic dimers**

*P. Beck, L. Schneider, L. Rózsa, K. Palotás, A. Lászlóffy, L. Szunyogh, J. Wiebe, and R. Wiesendanger, Nature Communications* **12** 2040 (2021)

**Spin-Polarized Yu-Shiba-Rusinov States in an Iron-Based Superconductor**

*D. Wang, J. Wiebe, R. Zhong, G. Gu, and R. Wiesendanger, Phys. Rev. Lett.* **126** 076802 (2021)

**Role of impurity clusters for the current-driven motion of magnetic skyrmions**

*M. Stier, R. Strobel, S. Krause, W. Häusler, and M. Thorwart, Phys. Rev. B* **103** 054420 (2021)

**Atomic-scale spin-polarization maps using functionalized superconducting probes**

*L. Schneider, P. Beck, J. Wiebe, and R. Wiesendanger, Science Advances* **7** (4) eabd7302 (2021)

**Stacking-Dependent Spin Interactions in Pd/Fe Bilayers on Re(0001)**

*W. Li, S. Paul, K. von Bergmann, S. Heinze, and R. Wiesendanger, Phys. Rev. Lett.* **125** 227205 (2020)

**Rotating edge-field driven processing of chiral spin textures in racetrack devices**

*A. F. Schäffer, P. Sigl, M. Stier, T. Posske, J. Berakdar, M. Thorwart, R. Wiesendanger, and E. Y. Vedmedenko, npj Scientific Reports* **10** 20400 (2020)

**Topological superconductivity induced by a triple-q magnetic structure**

*J. Bedow, E. Mascot, Th. Posske, G. S. Uhrig, R. Wiesendanger, S. Rachel, and D. K. Morr, Phys. Rev. B* **102** 1800504(R) (2020)

**Control of emergent magnetic monopole currents in artificial spin ice**

*H. Arava, E. Y. Vedmedenko, J. Cui, J. Vijayakumar, A. Kleibert, and L. J. Heyderman, Phys. Rev. B* **102** 144413 (2020)

**Knoten in der Magnetisierung**

*K. von Bergmann, Physik Journal* **19** (10) 30 (2020)

**A cavity optomechanical locking scheme based on the optical spring effect**

*P. Rohse, J. Butlewski, F. Klein, T. Wagner, C. Friesen, A. Schwarz, R. Wiesendanger, K. Sengstock, and C. Becker, Rev. Sci. Instr.* **91** 103102 (2020)

**Controlling in-gap end states by linking nonmagnetic atoms and artificially-constructed spin chains on superconductors**

*L. Schneider, S. Brinker, M. Steinbrecher, J. Hermenau, T. Posske, M. dos Santos Dias, S. Lounis, R. Wiesendanger, and J. Wiebe*, Nature Commun. **11** 4707 (2020)

**Long-range focusing of magnetic bound states in superconducting lanthanum**

*H. Kim, L. Rózsa, D. Schreyer, E. Simon, and R. Wiesendanger*, Nature Commun. **11** 4573 (2020)

**Spectroscopic signature of the Stark shifted Tamm-type surface state of La(0001)**

*D. Schreyer, H. Kim, and R. Wiesendanger*, New Journ. Phys. **22** 093013 (2020)

**Large Dzyaloshinskii–Moriya interaction induced by chemisorbed oxygen on a ferromagnet surface**

*G. Chen, A. Mascaraque, H. Jia, B. Zimmermann, M.C. Robertson, R. Lo Conte, M. Hoffmann, M.A. González Barrio, H. Ding, R. Wiesendanger, E.G. Michel, S. Blügel, A. K. Schmid, and K. Liu*, Science Advances **6** eaba 4924 (2020)

**The 2020 magnetism roadmap**

*E. Y. Vedmedenko, R. K. Kawakami, D. D. Sheka, P. Gambardella, A. Kirilyuk, A. Hirohata, C. Binek, O. Chubykalo-Fesenko, S. Sanvito, and B. J. Kirby*, Journal of Physics D: Applied Physics **53** 453001 (2020)

**Towards skyrmion-superconductor hybrid systems**

*A. Kubetzka, J. M. Bürger, R. Wiesendanger, and K. von Bergmann*, Phys. Rev. Mat. **4** 081401(R) (2020)

**Tuning the Properties of Zero-Field Room Temperature Ferromagnetic Skyrmions by Interlayer Exchange Coupling**

*R. Lo Conte, A. K. Nandy, G. Chen, A. L. Fernandes Cauduro, A. Maity, C. Ophus, Z. Chen, A. T. N'Diaye, K. Liu, A. K. Schmid, and R. Wiesendanger*, Nano Letters **20** 4739 (2020)

**Temperature and magnetic field dependent behavior of atomic-scale skyrmions in Pd/Fe/Ir(111) nanoislands**

*P. Lindner, L. Bargsten, S. Kovarik, J. Friedlein, J. Harm, S. Krause, and R. Wiesendanger*, Phys. Rev. B **101** 214445 (2020)

**The 2020 skyrmionics roadmap**

*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 J. Zang*, J. Phys. D: Appl. Phys. **53** 363001 (2020)

**Discovery of Magnetic Single- and Triple-q States in Mn/Re(0001)**

*J. Spethmann, S. Meyer, K. von Bergmann, R. Wiesendanger, S. Heinze, and A. Kubetzka*, Phys. Rev. Lett. **124** 227203 (2020)

**Real-space imaging of atomic-scale spin textures at nanometer distances**

*A. Schlenhoff, S. Kovarik, S. Krause and R. Wiesendanger*, Appl. Phys. Lett. **116** 122406 (2020)

**Plumbene on a Magnetic Substrate: A Combined Scanning Tunneling Microscopy and Density Functional Theory Study**

*G. Bihlmayer, J. Sassmannshausen, A. Kubetzka, S. Blügel, K. von Bergmann, and R. Wiesendanger*, Phys. Rev. Lett. **124** 126401 (2020)

**In Situ Synthesis of Metal–Salophene Complexes on Intercalated Graphene**

*M. Elsebach, E. Sierda, J. Goedecke, L. Bignardi, M. Hermanowicz, M. Rohde, R. Wiesendanger, and M. Bazarnik*, J. Phys. Chem. C **124** 4279 (2020)

**A radio-frequency spin-polarized scanning tunneling microscope**

*J. Friedlein, J. Harm, P. Lindner, L. Bargsten, M. Bazarnik, S. Krause, and R. Wiesendanger*, Rev. of Scientific Instruments **90** 123705 (2019)

**Electrical Detection of Domain Walls and Skyrmions in Co Films Using Noncollinear Magnetoresistance**

*M. Perini, S. Meyer, A. Kubetzka, R. Wiesendanger, S. Heinze, and K. von Bergmann*, Phys. Rev. Lett. **123** 23705 (2019)

**Probing Weakly Hybridized Magnetic Molecules by Single-Atom Magnetometry**

*E. Sierda, M. Elsebach, R. Wiesendanger, and M. Bazarnik*, Nano Lett. **19** 9013-9018 (2019)

**Colloquium: Atomic spin chains on surfaces**

*D.-J. Choi, N. Lorente, J. Wiebe, K. von Bergmann, A. F. Otte, and A. J. Heinrich*, Rev. Mod. Phys. **91** 041001 (2019)

**Atomically thin oxide layer on the elemental superconductor Ta(001) surface**

*R. Mozara, A. Kamalpure, M. Valentyuk, L. Cornils, A. I. Lichtenstein, J. Wiebe, and R. Wiesendanger*, Phys. Rev. Materials **3** 094801 (2019)

**Reduced thermal stability of antiferromagnetic nanostructures**

*L. Rózsa, S. Selzer, T. Birk, U. Atxitia, and U. Nowak*, Phys. Rev. B **100** 064422 (2019)

**Isolated zero field sub-10 nm skyrmions in ultrathin Co films**

*S. Meyer, M. Perini, S. von Malottki, A. Kubetzka, R. Wiesendanger, K. von Bergmann, and S. Heinze*, Nature Communications **10** 3823 (2019)

**Vacuum Resonance States as Atomic-Scale Probes of Noncollinear Surface Magnetism**

*A. Schlenhoff, S. Kovarik, S. Krause, and R. Wiesendanger*, Phys. Rev. Lett. **123** 087202 (2019)

**Magnetism and in-gap states of 3d transition metal atoms on superconducting Re**

*L. Schneider, M. Steinbrecher, L. Rózsa, J. Bouaziz, K. Palotás, M. dos Santos Dias, S. Lounis, J. Wiebe, and R. Wiesendanger*, npj Quantum Materials **4** 42 (2019)

**Atomic-scale interface engineering of Majorana edge modes in a 2D magnet-superconductor hybrid system**

*A. Palacio-Morales, E. Mascot, S. Cocklin, H. Kim, S. Rachel, D. K. Morr, and R. Wiesendanger*, Science Advances **5** eaav6600 (2019)

**Influence of an Anomalous Temperature Dependence of the Phase Coherence Length on the Conductivity of Magnetic Topological Insulators**

*V. Tkáč, K. Výborný, V. Komanický, J. Warmuth, M. Michiardi, A. S. Nanganke, M. Vondráček, R. Tarasenko, M. Vališka, V. Stetsovych, K. Carva, I. Garate, M. Bianchi, J. Wiebe, V. Holý, Ph. Hofmann, G. Springholz, V. Sechovský, and J. Honolka*, Phys. Rev. Lett. **123** 036406 (2019)

**Step-Edge-Induced Anisotropic Chiral Spin Coupling in Ultrathin Magnetic Films**

*A. Schlenhoff, S. Krause, and R. Wiesendanger*, Phys. Rev. Lett. **123** 037201 (2019)

**Interlayer Dzyaloshinskii-Moriya Interactions**

*E. Y. Vedmedenko, P. Riego, J. A. Arregi, and A. Berger*, Phys. Rev. Lett. **122** 257202 (2019)

**Stochastic dynamics and pattern formation of geometrically confined skyrmions**

*A. F. Schäffer, L. Rózsa, J. Berakdar, E. Y. Vedmedenko, and R. Wiesendanger*, NPG Commun. Phys. **2** 72 (2019)

**Stabilizing spin systems via symmetrically tailored RKKY interactions**

*J. Hermenau, S. Brinker, M. Mariani, M. Steinbrecher, M. dos Santos Dias, R. Wiesendanger, S. Lounis, and J. Wiebe*, Nature Communications **10** 2565 (2019)

**Nanoscale magnetic skyrmions and target states in confined geometries**

*D. Cortés-Ortuno, N. Romming, M. Beg, K. von Bergmann, A. Kubetzka, O. Hovorka, H. Fangohr, and R. Wiesendanger*, Phys. Rev. B **99** 214408 (2019)

**Symmetry-breaking interlayer Dzyaloshinskii–Moriya interactions in synthetic antiferromagnets**

*A. Fernández-Pacheco, E. Vedmedenko, F. Ummelen, R. Mansell, D. Petit, and R. P. Cowburn*, Nature Materials **18** 679–684 (2019)

**Magnetic structure of monatomic Fe chains on Re(0001): Emergence of chiral multispin interactions**

*A. Lászlóffy, L. Rózsa, K. Palotás, L. Udvardi, and L. Szunyogh*, Phys. Rev. B **99** 184430 (2019)

**Atomically resolved magnetic structure a Gd-Au surface alloy**

*M. Bazarnik, M. Abadía, J. Brede, M. Hermanowicz, E. Sierda, M. Elsebach, T. Hänke and R. Wiesendanger*, Phys. Rev. B **99** 174419 (2019)

**Thermal skyrmion diffusion used in a reshuffler device**

*J. Zázvorka, F. Jakobs, D. Heinze, N. Keil, S. Kromin, S. Jaiswal, K. Litzius, G. Jakob, P. Virnau, D. Pinna, K. Everschor-Sitte, L. Rózsa, A. Donges, U. Nowak, and M. Kläui*, Nature Nanotechnology **14** 658–661 (2019)

**Magneto-Seebeck tunneling on the atomic scale**

*C. Friesen, H. Osterhage, J. Friedlein, A. Schlenhoff, R. Wiesendanger, and S. Krause*, Science **363** 1065 (2019)

**Tuning non-collinear magnetic states by hydrogenation**

*A. Finco, P.-J. Hsu, K. von Bergmann, and R. Wiesendanger*, Phys. Rev. B **99** 064436 (2019)

**Nanoscience and Nanotechnology at the Centennial of Universität Hamburg**

*R. H. Blick, H. Graener, A. Mews, H. Weller, R. Wiesendanger, and W. Parak*, ACS Nano **13** 1 (2019)

**Stable bismuth sub-monolayer termination of Bi<sub>2</sub>Se<sub>3</sub>**

*M. Hermanowicz, W. Koczorowski, M. Bazarnik, M. Kopciuszynski, R. Zdyb, A. Materna, A. Hruban, R. Czajka, and M.W. Radny*, App. Surf. Sci. **476** 701-705 (2019)

**Localized spin waves in isolated kpi-skyrmions**

*L. Rózsa, J. Hagemeister, E. Y. Vedmedenko, and R. Wiesendanger, Phys. Rev. B* **98** 224426 (2018)

**An atomically thin oxide layer on the elemental superconductor Ta(001) surface**

*R. Mozara, A. Kamlapure, M. Valentyuk, L. Cornils, A. I. Lichtenstein, J. Wiebe, and R. Wiesendanger, Phys. Rev. Materials* **3** 094801 (2018)

**Magnetic domain walls in strain-patterned ultrathin films**

*A. Finco, M. Perini, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, Phys. Rev. B* **98** 174435 (2018)

**Pb-induced skyrmions in a double layer of Fe on Ir(111)**

*J. Sassmannshausen, A. Kubetzka, P.-J. Hsu, K. von Bergmann, and R. Wiesendanger, Phys. Rev. B* **98** 144443 (2018)

**Combined feedback and sympathetic cooling of a mechanical oscillator coupled to ultracold atoms**

*P. Christoph, T. Wagner, H. Zhong, R. Wiesendanger, K. Sengstock, A. Schwarz, and C. Becker, New Journ. Phys.* **30** 093020 (2018)

**Engineering the spin couplings in atomically crafted spin chains on an elemental superconductor**

*A. Kamlapure, L. Cornils, J. Wiebe, and R. Wiesendanger, Nature Communications* **9** 3253 (2018)

**Non-collinear spin states in bottom-up fabricated atomic chains**

*M. Steinbrecher, R. Rausch, K. T. Ton, J. Hermenau, A. A. Khajetoorians, M. Potthoff, R. Wiesendanger, and J. Wiebe, Nature Communications* **9** 2853 (2018)

**Scanning Seebeck tunneling microscopy**

*C. Friesen, H. Osterhage, J. Friedlein, A. Schlenhoff, R. Wiesendanger, and S. Krause, J. Phys. D: Appl. Phys.* **51** 324001 (2018)

**Controlled creation and stability of  $\pi$  skyrmions on a discrete lattice**

*J. Hagemeister, A. Siemens, L. Rózsa, E. Y. Vedmedenko, and R. Wiesendanger, Phys. Rev. B* **97** 174436 (2018)

**Domain walls and Dzyaloshinskii-Moriya interaction in epitaxial Co/Ir(111) and Pt/Co/Ir(111)**

*M. Perini, S. Meyer, B. Dupé, S. von Malottki, A. Kubetzka, K. von Bergmann, R. Wiesendanger, and S. Heinze, Phys. Rev. B* **97** 184425 (2018)

**Competition of Dzyaloshinskii-Moriya and Higher-Order Exchange Interactions in Rh/Fe Atomic Bilayers on Ir(111)**

*N. Romming, H. Pralow, A. Kubetzka, M. Hoffmann, S. von Malottki, S. Meyer, B. Dupé, R. Wiesendanger, K. von Bergmann, and S. Heinze, Phys. Rev. Lett.* **120** 207201 (2018)

**Toward tailoring Majorana bound states in artificially constructed magnetic atom chains on elemental superconductors**

*H. Kim, A. Palacio-Morales, T. Posske, L. Rózsa, K. Palotás, L. Szunyogh, M. Thorwart, R. Wiesendanger, Science Advances* **4** eaar5251 (2018)

**Theory of high-resolution tunneling spin transport on a magnetic skyrmion**

*K. Palotás, L. Rózsa, and L. Szunyogh, Phys. Rev. B* **97** 174402 (2018)

**Effective damping enhancement in noncollinear spin structures**

*L. Rózsa, J. Hagemeister, E. Y. Vedmedenko, and R. Wiesendanger, Phys. Rev. B* **30** 100404 (2018)

**Inducing skyrmions in ultrathin Fe films by hydrogen exposure**

*P. J. Hsu, L. Rózsa, A. Finco, L. Schmidt, K. Palotas, E. Vedmedenko, L. Udvardi, L. Szunyogh, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, Nature Communications* **9** 1571 (2018)

**Enhanced spin-ordering temperature in ultrathin FeTe films grown on a topological insulator**

*U. R. Singh, J. Warmuth, A. Kamlapure, L. Cornils, M. Bremholm, Ph. Hofmann, J. Wiebe, and R. Wiesendanger, Phys. Rev. B* **97** 144513 (2018)

**Domain imaging across the magneto-structural phase transitions in Fe<sub>1-x</sub>Te**

*J. Warmuth, M. Bremholm, P. Hofmann, J. Wiebe, and R. Wiesendanger, npj Quantum Materials* **3** 21 (2018)

**Magnetism of a Co monolayer on Pt(111) capped by overlayers of 5d elements: A spin-model study**

*E. Simon, L. Rózsa, K. Palotás, and L. Szunyogh, Phys. Rev. B* **97** 134405 (2018)

**Long Spin-Relaxation Times in a Transition-Metal Atom in Direct Contact to a Metal Substrate**

*Jan Hermenau, Markus Ternes, Manuel Steinbrecher, Roland Wiesendanger, and Jens Wiebe, Nano Letters* **18** 1978 (2018)

**Atomic-Site-Specific Analysis on Out-of-Plane Elasticity of Convexly Curved Graphene and Its Relationship to sp<sup>2</sup> to sp<sup>3</sup> Re-Hybridization**

*M. Ashino and R. Wiesendanger, Crystals* **8** 102 (2018)



**Structural and electronic properties of ultrathin FeSe films grown on Bi<sub>2</sub>Se<sub>3</sub>(0001) studied by STM/STS**

U. R. Singh, J. Warmuth, V. Markmann, J. Wiebe, and R. Wiesendanger, *J. Phys.: Condens. Matter* **29** 025004 (2017)

**Electric-field-driven switching of individual magnetic Skyrmions**

P.-J. Hsu, A. Kubetzka, A. Finco, N. Romming, K. von Bergmann, and R. Wiesendanger, *Nature Nanotechnology* **12** 123 (2017)

**Reorientation of the diagonal double-stripe spin structure at Fe<sub>1-x</sub>Te bulk and thin-film surfaces**

T. Hänke, U. R. Singh, L. Cornils, S. Manna, A. Kamalpure, M. Bremholm, E. M. J. Hedegaard, B. B. Iversen, Ph. Hofmann, J. Hu, Z. Mao, J. Wiebe, and R. Wiesendanger, *Nature Commun.* **8** 13939 (2017)

**Tailoring noncollinear magnetism by misfit dislocation lines**

A. Finco, P.-J. Hsu, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, *Phys. Rev. B* **94** 214402 (2016)

**Skyrmions at the Edge: Confinement Effects in Fe/Ir(111)**

J. Hagemeister, D. Iaia, E. Y. Vedmedenko, K. von Bergmann, A. Kubetzka, and R. Wiesendanger, *Phys. Rev. Lett.* **117** 207202 (2016)

**Nickel: The time-reversal symmetry conserving partner of iron on a chalcogenide topological insulator**

M. Vondráček, L. Cornils, J. Minár, J. Warmuth, M. Michiardi, C. Piamonteze, L. Barreto, J. A. Miwa, M. Bianchi, Ph. Hofmann, L. Zhou, A. Kamalpure, A. A. Khajetoorians, R. Wiesendanger, J.-L. Mi, B.-B. Iversen, S. Mankovsky, St. Borek, H. Ebert, M. Schüler, T. Wehling, J. Wiebe, and J. Honolka, *Phys. Rev. B* **94** 161114(R) (2016)

**Pattern formation in skyrmionic materials with anisotropic environments**

J. Hagemeister, E. Y. Vedmedenko, and R. Wiesendanger, *Phys. Rev. B* **94** 104434 (2016)

**Coupling of Coexisting Noncollinear Spin States in the Fe Monolayer on Re(0001)**

A. Palacio Morales, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, *Nano Letters* **16** 6252 (2016)

**Set-up of a high-resolution 300 mK atomic force microscope in an ultra-high vacuum compatible 3He/10 T cryostat**

H. von Allwörden, K. Ruschmeier, A. Köhler, T. Eelbo, A. Schwarz and R. Wiesendanger, *Rev. Sci. Instr.* **87** 073702 (2016)

**Symmetry breaking in spin spirals and skyrmions by in-plane and canted magnetic fields**

L. Schmidt, J. Hagemeister, P.-J. Hsu, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, *New Journ. Phys.* **18** 075007 (2016)

**Topological insulator homojunctions including magnetic layers: The example of n-type (n-QLs Bi<sub>2</sub>Se<sub>3</sub>/Mn-Bi<sub>2</sub>Se<sub>3</sub>) heterostructures**

M. Vališka, J. Warmuth, M. Michiardi, M. Vondráček, A. S. Ngankeu, V. Holý, V. Sechovský, G. Springholz, M. Bianchi, J. Wiebe, P. Hofmann and J. Honolka, *Appl. Phys. Lett.* **108** 262402 (2016)

**Nanoscale magnetic skyrmions in metallic films and multilayers: a new twist for spintronics**

R. Wiesendanger, *Nature Reviews Materials* **1** 16044 (2016)

**STM study of the preparation of clean Ta(110) and the subsequent growth of two-dimensional Fe islands**

T. Eelbo, V. Zdravkov, and R. Wiesendanger, *Surf. Sci.* **653** 113 (2016)

**The properties of isolated chiral skyrmions in thin magnetic films**

A. O. Leonov, T. L. Monchesky, N. Romming, A. Kubetzka, A. N. Bogdanov, and R. Wiesendanger, *New Journ. Phys.* **18** 065003 (2016)

**Pinning and movement of individual nanoscale magnetic skyrmions via defects**

Ch. Hanneken, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, *New Journ. Phys.* **18** 055009 (2016)

**Quantum technology: from research to application**

W. P. Schleich, K. S. Ranade, C. Anton, M. Arndt, M. Aspelmeyer, M. Bayer, G. Berg, T. Calarco, H. Fuchs, E. Giacobino, M. Grassl, P. Hänggi, W.M. Heckl, I. V. Hertel, S. Huelga, F. Jelezko, B. Keimer, J. P. Kotthaus, G. Leuchs, N. Lütkenhaus, U. Maurer, T. Pfau, M. B. Plenio, E. M. Raseel, O. Renn, C. Silberhorn, J. Schiedmayer, D. Schmitt-Landsiedel, K. Schönhammer, A. Ustinov, P. Walther, H. Weinfurter, E. Welzl, R. Wiesendanger, S. Wolf, A. Zeilinger, and P. Zoller, *Appl. Phys. B* **122** 130 (2016)

**Band-gap engineering by Bi intercalation of graphene on Ir(111)**

J. Warmuth, A. Bruix, M. Michiardi, T. Hänke, M. Bianchi, J. Wiebe, R. Wiesendanger, B. Hammer, P. Hofmann, and A. A. Khajetoorians, *Phys. Rev. B* **93** 165437 (2016)

**Skyrmionics gets hot**

S. Krause and R. Wiesendanger, *Nature Materials* **15** 493 (2016)

**Minimal radius of magnetic skyrmions: statics and dynamics**

*A. Siemens, Y. Zhang, J. Hagemeyer, E. Vedmedenko, and R. Wiesendanger, New Journ. Phys. 18 045021 (2016)*

**Structural and magnetic properties of Ni/Fe nanostructures on Ir(111)**

*D. Iaia, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, Phys. Rev. B 93 134409 (2016)*

**Quantum revivals and magnetization tunneling in effective spin systems**

*M. Krizanac, D. Altwein, E. Y. Vedmedenko, and R. Wiesendanger, New Journ. Phys. 18 033029 (2016)*

**Spin-sensitive shape asymmetry of adatoms on noncollinear magnetic substrates**

*D. Serrate, Y. Yoshida, M. Moro-Lagares, A. Kubetzka, and R. Wiesendanger, Phys. Rev. B 93 125424 (2016)*

**Tailoring the chiral magnetic interaction between two individual atoms**

*A. A. Khajetoorians, M. Steinbrecher, M. Termes, M. Bouhassoune, M. dos Santos Dias, S. Lounis, J. Wiebe, and R. Wiesendanger, Nature Communications 7 10620 (2016)*

**Dynamics of Bound Monopoles in Artificial Spin Ice: How to Store Energy in Dirac Strings**

*E. Y. Vedmedenko, Phys. Rev. Lett. 116 077202 (2016)*

**High-frequency magnetization dynamics of individual atomic-scale magnets**

*S. Krause, A. Sonntag, J. Hermenau, J. Friedlein, and R. Wiesendanger, Phys. Rev. B 93 064407 (2016)*

**Absence of a spin-signature from a single Ho adatom as probed by spin-sensitive tunneling**

*M. Steinbrecher, A. Sonntag, M. dos Santos Dias, M. Bouhassoune, S. Lounis, J. Wiebe, R. Wiesendanger, and A. A. Khajetoorians, Nature Communications 7 10454 (2016)*

**Guiding Spin Spirals by Local Uniaxial Strain Relief**

*P.-J. Hsu, A. Finco, L. Schmidt, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, Phys. Rev. Lett. 116 017201 (2016)*

**Tunneling into thin superconducting films: Interface-induced quasiparticle lifetime reduction**

*P. Löptien, L. Zhou, A. A. Khajetoorians, J. Wiebe, and R. Wiesendanger, Surf. Sci. 643 6 (2016)*

**Toward Tailored All-Spin Molecular Devices**

*M. Bazarnik, B. Bugenhagen, M. Elsebach, E. Sierda, A. Frank, M. H. Prosenc, and R. Wiesendanger, Nano Lett. 16 577 (2016)*

**Stability of Single Skyrmionic Bits**

*J. Hagemeyer, N. Romming, K. von Bergmann, E. Y. Vedmedenko, and R. Wiesendanger, Nature Communications 6 8455 (2015)*

**Electrical detection of magnetic skyrmions by tunnelling non-collinear magnetoresistance**

*C. Hanneken, F. Otte, A. Kubetzka, B. Dupé, N. Romming, K. von Bergmann, R. Wiesendanger, and S. Heinze, Nature Nanotechnology 10 1039 (2015)*

**Investigating the differences between Co adatoms states on surfaces of selected bismuth chalcogenides**

*M. Wałowińska, M. Sikora, M. Dobrzańska, T. Eelbo, M. M. Soares, M. Rams, I. Miotkowski, R. Wiesendanger, R. Berndt, Z. Kozłowski, and A. Kozłowski, Phys. Rev. B 92 115412 (2015)*

**Tuning emergent magnetism in a Hund's impurity**

*A. A. Khajetoorians, M. Valentyuk, M. Steinbrecher, T. Schlenk, A. Shick, J. Kolorenc, A. I. Lichtenstein, T. O. Wehling, R. Wiesendanger and J. Wiebe, Nature Nanotechnology 10 958 (2015)*

**Magnetic bubbles with a twist**

*K. von Bergmann, Science 349 234 (2015)*

**Magnetic Nano-skyrmion Lattice Observed in a Si-Wafer-Based Multilayer System**

*A. Schlenhoff, P. Lindner, J. Friedlein, S. Krause, R. Wiesendanger, M. Weinl, M. Schreck, and M. Albrecht, ACS Nano 9 5908 (2015)*

**Multi-layer and multi-component intercalation at the graphene/Ir(111) interface**

*M. Bazarnik, R. Decker, J. Brede, and R. Wiesendanger, Surf. Sci. 639 70 (2015)*

**Field-Dependent Size and Shape of Single Magnetic Skyrmions**

*N. Romming, A. Kubetzka, C. Hanneken, K. von Bergmann, and R. Wiesendanger, Phys. Rev. Lett. 114 177203 (2015)*

**Influence of the Local Atom Configuration on a Hexagonal Skyrmion Lattice**

*K. von Bergmann, M. Menzel, A. Kubetzka, and R. Wiesendanger, Nano Lett. 15 3280 (2015)*

**Temperature and non-linear response of cantilever-type mechanical oscillators used in atomic force microscopes with interferometric detection**

*G. Fläschner, K. Ruschmeier, A. Schwarz, R. Bakhtiari, M. Thorwart, and R. Wiesendanger, Appl. Phys. Lett. 106 123102 (2015)*

**Description of a dissipative quantum spin dynamics with a Landau-Lifshitz/Gilbert like damping and complete derivation of the classical Landau-Lifshitz equation**

*R. Wieser, Eur. Phys. J. B 88 77 (2015)*

**Response of the topological surface state to surface disorder in TlBiSe<sub>2</sub>**

*F. Pielmeier, G. Landolt, B. Slomski, S. Muff, J. Berwanger, A. Eich, A. A. Khajetoorians, J. Wiebe, Z. S. Aliev, M. B. Babanly, R. Wiesendanger, J. Osterwalder, E. V. Chulkov, F. J. Giessibl, and J. H. Dil, New Journ. Phys. 17 023067 (2015)*

**Spin Polarization of the Split Kondo State**

*K. von Bergmann, M. Ternes, S. Loth, C. P. Lutz, and A. J. Heinrich, Phys. Rev. Lett. 114 076601 (2015)*

**Bounds on expectation values of quantum subsystems and perturbation theory**

*K. Them, E. Y. Vedmedenko, K. Fredenhagen, and R. Wiesendanger, J. Phys. A: Math. Theor. 48 075301 (2015)*

**Giant magnetization canting due to symmetry breaking in zigzag Co chains on Ir(001)**

*B. Dupé, J. E. Bickel, Y. Mokrousov, F. Otte, K. von Bergmann, A. Kubetzka, S. Heinze, and R. Wiesendanger, New J. Phys. 17 023014 (2015)*

**Mechanism of a molecular photo-switch adsorbed on Si(100)**

*M. Bazarnik, L. Jurczyszyn, R. Czajka, K. Morgenstern, Phys. Chem. Chem. Phys. 17 5366 (2015)*

**Neuartige Konzepte für die Informationstechnologie**

*H. Fuchs and R. Wiesendanger, nanoTECHNOLOGIE aktuell 8 28 (2014)*

**Long-range magnetic coupling between nanoscale organic-metal hybrids mediated by a nanoskyrmion lattice**

*J. Brede, N. Atodiresei, V. Caciuc, M. Bazarnik, A. Al-Zubi, S. Blügel, and R. Wiesendanger, Nature Nanotechnology 9 1018 (2014)*

**Intra- and interband electron scattering in a hybrid topological insulator: Bismuth bilayer on Bi<sub>2</sub>Se<sub>3</sub>**

*A. Eich, M. Michiardi, G. Bihlmayer, X.-G. Zhu, J.-L. Mi, Bo B. Iversen, R. Wiesendanger, Ph. Hofmann, A. A. Khajetoorians, and J. Wiebe, Phys. Rev. B 90 155414 (2014)*

**Superconductivity of lanthanum revisited: enhanced critical temperature in the clean limit**

*P. Löptien, L. Zhou, A. A. Khajetoorians, J. Wiebe, and R. Wiesendanger, J. Phys.: Condens. Matter 26 425703 (2014)*

**Interface-induced chiral domain walls, spin spirals and skyrmions revealed by spin-polarized scanning tunneling microscopy**

*K. von Bergmann, A. Kubetzka, O. Pietzsch, and R. Wiesendanger, J. Phys.: Condens. Matter 26 394002 (2014)*

**Local tunnel magnetoresistance of an iron intercalated graphene-based heterostructure**

*R. Decker, M. Bazarnik, N. Atodiresei, V. Caciuc, S. Blügel, and R. Wiesendanger, J. Phys.: Condens. Matter 26 394004 (2014)*

**Scanning tunneling microscopy study of Fe, Co and Cr growth on Re(0001)**

*S. Ouazi, T. Pohlmann, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, Surf. Sci. 630 280 (2014)*

**Thermal Stability of an Interface-Stabilized Skyrmion Lattice**

*A. Sonntag, J. Hermenau, S. Krause, and R. Wiesendanger, Phys. Rev. Lett. 113 077202 (2014)*

**Computing with spins and magnets**

*B. Behin-Aein, J.-P. Wang, and R. Wiesendanger, MRS Bulletin 39 696 (2014)*

**Influence of long-range interactions on the switching behavior of particles in an array of ferromagnetic nanostructure**

*A. Neumann, D. Altwein, C. Thönnißen, R. Wieser, A. Berger, A. Meyer, E. Vedmedenko and H.-P. Oepen, New Journ. Phys. 16 083012 (2014)*

**Spin-resolved imaging and spectroscopy of individual molecules with sub-molecular spatial resolution**

*J. Brede and R. Wiesendanger, MRS Bulletin 39 608 (2014)*

**Detecting the dipole moment of a single carbon monoxide molecule**

A. Schwarz, A. Köhler, J. Grenz, and R. Wiesendanger, *Appl. Phys. Lett.* **105** 011606 (2014)

**Hitting the limit of magnetic anisotropy**

Alexander Ako Khajetoorians and Jens Wiebe, *Science* **344** 976 (2014)

**Using Metallic Noncontact Atomic Force Microscope Tips for Imaging Insulators and Polar Molecules: Tip Characterization and Imaging Mechanisms**

D. Z. Gao, J. Grenz, M. B. Watkins, F. F. Canova, A. Schwarz, R. Wiesendanger, and A. L. Shluger, *ACS Nano* **8** 5339 (2014)

**Miniaturized high-precision piezo driven two axes stepper goniometer**

H. Zhong, A. Schwarz, and R. Wiesendanger, *Rev. Sci. Instr.* **85** 045006 (2014)

**Formation and structural analysis of twisted bilayer graphene on Ni(111) thin films**

T. Iwasaki, A. A. Zakharov, T. Eelbo, M. Wasniewska, R. Wiesendanger, J. H. Smet, and U. Starke, *Surf. Sci.* **625** 44 (2014)

**Strong out-of-plane magnetic anisotropy of Fe adatoms on Bi<sub>2</sub>Te<sub>3</sub>**

T. Eelbo, M. Wasniewska, M. Sikora, M. Dobrzanski, A. Kozłowski, A. Pulkin, G. Autes, I. Miotkowski, O. V. Yazyev, and R. Wiesendanger, *Phys. Rev. B* **89** 104424 (2014)

**Towards experimental tests and applications of Lieb-Robinson bounds**

K. Them, *Phys. Rev. A* **89** 022126 (2014)

**Enhanced Atomic-Scale Spin Contrast due to Spin Friction**

S. Ouazi, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, *Phys. Rev. Lett.* **112** 076102 (2014)

**Screening and atomic-scale engineering of the potential at a topological insulator surface**

P. Löptien, L. Zhou, J. Wiebe, A. A. Khajetoorians, J. L. Mi, B. B. Iversen, Ph. Hofmann, and R. Wiesendanger, *Phys. Rev. B* **89** 085401 (2014)

**Parity effects in 120° spin spirals**

M. Menzel, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, *Phys. Rev. Lett.* **112** 047204 (2014)

**Topologically Protected Magnetic Helix for All-Spin-Based Applications**

E. Y. Vedmedenko and D. Altwein, *Phys. Rev. Lett.* **112** 017206 (2014)

**Electric-field-induced magnetic anisotropy in a nanomagnet investigated on the atomic scale**

A. Sonntag, J. Hermenau, A. Schlenhoff, J. Friedlein, S. Krause, and R. Wiesendanger, *Phys. Rev. Lett.* **112** 017204 (2014)

**Tailoring Molecular Self-Assembly of Magnetic Phthalocyanine Molecules on Fe- and Co-Intercalated Graphene**

M. Bazarnik, J. Brede, R. Decker, and R. Wiesendanger, *ACS Nano* **7** 11341 (2013)

**Co atoms on Bi<sub>2</sub>Se<sub>3</sub>; revealing a coverage dependent spin reorientation transition**

T. Eelbo, M. Sikora, G. Bihlmayer, M. Dobrzański, A. Kozłowski, I. Miotkowski, and R. Wiesendanger, *New Journ. Phys.* **15** 113026 (2013)

**Spin Excitations of Individual Fe Atoms on Pt(111): Impact of the Site-Dependent Giant Substrate Polarization**

A. A. Khajetoorians, T. Schlenk, B. Schweflinghaus, M. dos Santos Dias, M. Steinbrecher, M. Bouhassoune, S. Lounis, J. Wiebe, and R. Wiesendanger, *Phys. Rev. Lett.* **111** 157204 (2013)

**Magnetische Knoten auf der Festplatte**

C. Hanneken, and N. Romming, *Spektrum der Wissenschaft Okt.* **2013** 22 (2013)

**Writing and Deleting Single Magnetic Skyrmions**

N. Romming, C. Hanneken, M. Menzel, J. E. Bickel, B. Wolter, K. von Bergmann, A. Kubetzka, and R. Wiesendanger, *Science* **341** 6146 (2013)

**Modification of Electrical Properties of Graphene by Substrate-Induced Nanomodulation**

Jong-Kwon Lee, S. Yamazaki, Hoyeol Yun, Jinwoo Park, G. P. Kennedy, Gyu-Tae Kim, O. Pietzsch, R. Wiesendanger, SangWook Lee, Suklyun Hong, U. Dettlaff-Weglikowska, and S. Roth, *Nano Letters* **13** 3494-500 (2013)

**Collective magnetism in arrays of spinor Bose-Einstein condensates**

E. Y. Vedmedenko, M. Schult, J. Kronjäger, R. Wiesendanger, K. Bongs, and K. Sengstock, *New Journ. Phys.* **15** 063033 (2013)

**Influence of the degree of decoupling of graphene on the properties of transition metal adatoms**

*T. Eelbo, M. Wasniowska, M. Gyamfi, S. Forti, U. Starke, and R. Wiesendanger, Phys. Rev. B* **87** 205443 (2013)

**Comparison of Quantum and Classical Relaxation in Spin Dynamics**

*R. Wieser, Phys. Rev. Lett.* **110** 147201 (2013)

**Adatoms and Clusters of 3d Transition Metals on Graphene: Electronic and Magnetic Configurations**

*T. Eelbo, M. Wasniowska, P. Thakur, M. Gyamfi, B. Sachs, T. O. Wehling, S. Forti, U. Starke, C. Tieg, A. I. Lichtenstein, and R. Wiesendanger, Phys. Rev. Lett.* **110** 136804 (2013)

**Controllable Magnetic Doping of the Surface State of a Topological Insulator**

*T. Schlenk, M. Bianchi, M. Koleini, A. Eich, O. Pietzsch, T. O. Wehling, T. Frauenheim, A. Balatsky, J.-L. Mi, B. B. Iversen, J. Wiebe, A. A. Khajetoorians, Ph. Hofmann, and R. Wiesendanger, Phys. Rev. Lett.* **110** 126804 (2013)

**Determining Adsorption Geometry, Bonding, and Translational Pathways of a Metal-Organic Complex on an Oxide Surface: Co-Salen on NiO(001)**

*A. Schwarz, D. Z. Gao, K. Lämmle, J. Grenz, M. B. Watkins, A. L. Shluger, and R. Wiesendanger, J. Phys. Chem. C* **117** 1105 (2013)

**Non-equilibrium finite temperature dynamics of magnetic quantum systems: applications to spin-polarized scanning tunneling microscopy**

*K. Them, T. Stapelfeldt, E. Y. Vedmedenko, and R. Wiesendanger, New Journ. Phys.* **15** 013009 (2013)

**A theoretical study of the dynamical switching of a single spin by exchange forces**

*R. Wieser, V. Caciuc, C. Lazo, H. Hölscher, E. Y. Vedmedenko, and R. Wiesendanger, New Journal of Physics* **15** 013011 (2013)

**Atomic-scale magnetism of cobalt-intercalated graphene**

*R. Decker, J. Brede, N. Atodiresi, V. Caciuc, S. Blügel, and R. Wiesendanger, Phys. Rev. B* **87** 041403 (2013)

**Current-Driven Spin Dynamics of Artificially Constructed Quantum Magnets**

*A. A. Khajetoorians, B. Baxevanis, C. Hübner, T. Schlenk, S. Krause, T. O. Wehling, S. Lounis, A. Lichtenstein, D. Pfannkuche, J. Wiebe, and R. Wiesendanger, Science* **339** no. 6115 pp (2013)

**Role of hybridization in the Rashba splitting of noble metal monolayers on W(110)**

*M. Hortamani and R. Wiesendanger, Phys. Rev. B* **86** 235437 (2012)

**Spin-resolved characterization of single cobalt phthalocyanine molecules on a ferromagnetic support**

*J. Brede and R. Wiesendanger, Phys. Rev. B* **86** 184423 (2012)

**Magnetization switching utilizing the magnetic exchange interaction**

*R. Schmidt, A. Schwarz, and R. Wiesendanger, Phys. Rev. B* **86** 174402 (2012)

**Tunneling anisotropic magnetoresistance on the atomic scale**

*K. von Bergmann, M. Menzel, D. Serrate, Y. Yoshida, S. Schröder, P. Ferriani, A. Kubetzka, R. Wiesendanger, and S. Heinze, Phys. Rev. B* **86** 134422 (2012)

**Magnetic coupling of single Co adatoms to a Co underlayer through a Pd spacer of variable thickness**

*L. V. Dzemiantsova, M. Hortamani, C. Hanneken, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, Phys. Rev. B* **86** 094427 (2012)

**Robust Nodal Structure of Landau Level Wave Functions Revealed by Fourier Transform Scanning Tunneling Spectroscopy**

*K. Hashimoto, T. Champel, S. Florens, C. Sohrmann, J. Wiebe, Y. Hirayama, R. A. Römer, R. Wiesendanger, and M. Morgenstern, Phys. Rev. Lett.* **109** 116805 (2012)

**Spin Friction Observed on the Atomic Scale**

*B. Wolter, Y. Yoshida, A. Kubetzka, S.-W. Hla, K. von Bergmann, and R. Wiesendanger, Phys. Rev. Lett.* **109** 116102 (2012)

**Individual Atomic-Scale Magnets Interacting with Spin-Polarized Field-Emitted Electrons,**

*A. Schlenhoff, S. Krause, A. Sonntag, and R. Wiesendanger, Phys. Rev. Lett.* **109** 097602 (2012)

**Robust Surface Doping of Bi<sub>2</sub>Se<sub>3</sub> by Rubidium Intercalation**

*M. Bianchi, R. C. Hatch, Z. Li, P. Hofmann, F. Song, J. Mi, B. B. Iversen, Z. M. Abd El-Fattah, P. Löptien, L. Zhou, A. A. Khajetoorians, J. Wiebe, R. Wiesendanger, and J. W. Wells, ACS Nano* **6** 7009 (2012)

**Real-space observation of spin-split molecular orbitals of adsorbed single-molecule magnets**

*J. Schwöbel, Y. Fu, J. Brede, A. Dilullo, G. Hoffmann, S. Klyatskaya, M. Ruben, and R. Wiesendanger, Nature Communications* **3** 953 (2012)

**Reversible chiral switching of Bis(phthalocyaninato) Terbium(III) on a metal surface**

*Y. Fu, J. Schwöbel, S.-W. Hla, A. Dilullo, G. Hoffmann, S. Klyatskaya, M. Ruben, and R. Wiesendanger, Nano Lett.* **12** 3931 (2012)

**Rechnen mit magnetischen Atomen**

*H. Fuchs and R. Wiesendanger, Nanotechnologie Aktuell* (2012)

**In-plane magnetic anisotropy of Fe atoms on Bi<sub>2</sub>Se<sub>3</sub>(111)**

*J. Honolka, A. A. Khajetoorians, V. Sessi, T. O. Wehling, S. Stepanow, J.-L. Mi, B. B. Iversen, T. Schlenk, J. Wiebe, N. B. Brookes, A. I. Lichtenstein, Ph. Hofmann, K. Kern, and R. Wiesendanger, Phys. Rev. Lett.* **108** 256811 (2012)

**Impact of intercalated cobalt on the electronic properties of graphene on Pt(111)**

*M. Gyamfi, T. Eelbo, M. Wasniowska, and R. Wiesendanger, Phys. Rev. B* **85** 205434 (2012)

**Atomic-scale magnetic dissipation from spin-dependent adhesion hysteresis**

*E. Y. Vedmedenko, Q. Zhu, U. Kaiser, A. Schwarz, and R. Wiesendanger, Phys. Rev. B* **85** 174410 (2012)

**Molecular Kondo chain**

*A. DiLullo, S.-H. Chang, N. Baadji, K. Clark, J.-P. Klöckner, M.H. Prosenc, S. Sarvito, R. Wiesendanger, G. Hoffmann, and S.-W. Hla, Nano Lett.* **12** 3174 (2012)

**Information Transfer by Vector Spin Chirality in Finite Magnetic Chains**

*M. Menzel, Y. Mokrousov, R. Wieser, J. E. Bickel, E. Vedmedenko, S. Blügel, S. Heinze, K. von Bergmann, A. Kubetzka, and R. Wiesendanger, Phys. Rev. Lett.* **108** 197204 (2012)

**Atom-by-atom engineering and magnetometry of tailored nanomagnets**

*A. A. Khajetoorians, J. Wiebe, B. Chilian, S. Lounis, S. Blügel, and R. Wiesendanger, Nature Physics* **8** 497 (2012)

**Orbital selective coupling between Ni adatoms and graphene Dirac electrons**

*M. Gyamfi, T. Eelbo, M. Wasniowska, T. O. Wehling, S. Forti, U. Starke, A. I. Lichtenstein, M. I. Katsnelson, and R. Wiesendanger, Phys. Rev. B* **85** 161406(R) (2012)

**Magnetic dipole configurations in honeycomb lattices: order and disorder**

*A. Schumann, P. Szary, E. Y. Vedmedenko, and H. Zabel, New J. Phys.* **14** 035015 (2012)

**Spin-resolved splitting of Kondo resonances in the presence of RKKY-type coupling**

*Y.-S. Fu, Q.-K. Xue, and R. Wiesendanger, Phys. Rev. Lett.* **108** 087203 (2012)

**Conical spin-spiral state in an ultra-thin film driven by higher-order spin interactions**

*Y. Yoshida, S. Schröder, P. Ferriani, D. Serrate, A. Kubetzka, K. von Bergmann, S. Heinze, and R. Wiesendanger, Phys. Rev. Lett.* **108** 087205 (2012)

**Micromagnetic description of the spin spiral in Fe double-layer stripes on W(110)**

*S. Meckler, O. Pietzsch, N. Mikuszeit, and R. Wiesendanger, Phys. Rev. B* **85** 024420 (2012)

**Atom-specific spin mapping and buried topological states in a homologous series of topological insulators**

*S. V. Eremeev, G. Landolt, T. V. Menshchikova, B. Slomski, Y. M. Koroteev, Z. S. Aliev, M. B. Babanly, J. Henk, A. Ernst, L. Patthey, A. Eich, A. A. Khajetoorians, J. Hagemeister, O. Pietzsch, J. Wiebe, R. Wiesendanger, P. M. Echenique, S. S. Tsirkin, I. R. Amiraslanov, J. H. Dil, and E. V. Chulkov, Nat. Commun.* **3** 635 (2012)

**Manipulation of domain walls using a spin-polarized STM**

*R. Wieser, T. Stapelfeldt, E. Y. Vedmedenko, and R. Wiesendanger, Europhys. Lett.* **97** 17009 (2012)

**Gitter aus magnetischen Wirbeln**

*S. Heinze, K. von Bergmann, and G. Bihlmayer, Physik in unserer Zeit* **43** 6 (2012)

**Real-space mapping of a disordered two-dimensional electron system in the quantum Hall regime**

*K. Hashimoto, J. Wiebe, T. Inaoka, Y. Hirayama, R. Wiesendanger, and M. Morgenstern, Journal of Physics: Conference Series* **334** 012008 (2011)

**Anomalously large g factor of single atoms adsorbed on a metal substrate**

*B. Chilian, A. A. Khajetoorians, S. Lounis, A. T. Costa, D. L. Mills, J. Wiebe, and R. Wiesendanger, Phys. Rev. B* **84** 212401 (2011)

**Multiscale magnetic study of Ni(111) and graphene on Ni(111)**

*L.V. Dzemiantsova, M. Karolak, F. Lofink, A. Kubetzka, B. Sachs, K. von Bergmann, S. Hankemeier, T.O. Wehling, R. Frömter, H.P. Oepen, A.I. Lichtenstein, and R. Wiesendanger, Phys. Rev. B* **84** 205431 (2011)

**Joule heating and spin-transfer torque investigated on the atomic scale using a spin-polarized scanning tunneling microscope**

*S. Krause, G. Herzog, A. Schlenhoff, A. Sonntag, and R. Wiesendanger, Phys. Rev. Lett.* **107** 186601 (2011)

**Fe adatoms on graphene/Ru(0001): Adsorption site and local electronic properties**

*M. Gyamfi, T. Eelbo, M. Wasniowska, and R. Wiesendanger, Phys. Rev. B* **84** 113403 (2011)

**Magnetic properties of monolayer Co islands on Ir(111) probed by spin-resolved scanning tunneling microscopy**

*J. E. Bickel, F. Meier, J. Brede, A. Kubetzka, K. von Bergmann, and R. Wiesendanger, Phys. Rev. B* **84** 054454 (2011)

**Role of quadratic terms in the Heisenberg model for quantum spin dynamics**

*R. Wieser, Phys. Rev. B* **84** 054411 (2011)

**Magnetostatics and the rotational sense of cycloidal spin spirals**

*N. Mikuszeit, S. Meckler, R. Wiesendanger, and R. Miranda, Phys. Rev. B* **84** 054404 (2011)

**Spontaneous atomic-scale magnetic skyrmion lattice in two dimensions**

*S. Heinze, K. von Bergmann, M. Menzel, J. Brede, A. Kubetzka, R. Wiesendanger, G. Bihlmayer, S. and Blügel, Nature Physics* **7** 713 -- 718 (2011)

**Domain Wall Manipulation with a Magnetic Tip**

*T. Stapelfeldt, R. Wieser, E. Y. Vedmedenko, and R. Wiesendanger, Phys. Rev. Lett.* **107** 027203 (2011)

**Logik aus atomaren Spins**

*J. Wiebe, A. A. Khajetoorians, B. Chilian, and R. Wiesendanger, Physik in unserer Zeit* **42** 162 (2011)

**Quantitative Measurement of the Magnetic Exchange Interaction across a Vacuum Gap**

*R. Schmidt, C. Lazo, U. Kaiser, A. Schwarz, S. Heinze, and R. Wiesendanger, Phys. Rev. Lett.* **106** 257202 (2011)

**Chemical Resolution at Ionic Crystal Surfaces Using Dynamic Atomic Force Microscopy with Metallic Tips**

*G. Teobaldi, K. Lämmle, T. Trevethan, M. Watkins, A. Schwarz, R. Wiesendanger, and A. Shluger, Phys. Rev. Lett.* **106** 216102 (2011)

**Experimental variation and theoretical analysis of the inelastic contribution to atomic spin excitation spectroscopy**

*B. Chilian, A. A. Khajetoorians, J. Wiebe, and R. Wiesendanger, Phys. Rev. B* **83** 195431 (2011)

**Realizing All-Spin-Based Logic Operations Atom by Atom**

*A. A. Khajetoorians, J. Wiebe, B. Chilian, and R. Wiesendanger, Science* **332** 1062 (2011)

**Inhomogeneous electronic properties of monolayer graphene on Ru(0001)**

*M. Gyamfi, T. Eelbo, M. Wa&#347;niowska, and R. Wiesendanger, Phys. Rev. B* **83** 153418 (2011)

**Spin-spin correlations in ferromagnetic nanosystems**

*E. Y. Vedmedenko, N. Mikuszeit, T. Stapelfeldt, R. Wieser, M. Potthoff, A. I. Lichtenstein and R. Wiesendanger, Eur. Phys. J. B* **80** 331 (2011)

**A multi-scale model of domain wall velocities based on ab initioparameters**

*P. Weinberger, E. Y. Vedmedenko, R. Wieser, and R. Wiesendanger, Philosophical Magazine* **91** 2248 (2011)

**Indirect Control of Antiferromagnetic Domain Walls with Spin Current**

*R. Wieser, E. Y. Vedmedenko, and R. Wiesendanger, Phys. Rev. Lett.* **106** 067204 (2011)

**Spin-polarization of platinum (111) induced by the proximity to cobalt nanostripes**

*F. Meier, S. Lounis, J. Wiebe, L. Zhou, S. Heers, P. Mavropoulos, P. H. Dederichs, S. Blügel, and R. Wiesendanger, Phys. Rev. B* **83** 075407 (2011)

**Single-atom magnetometry**

*R. Wiesendanger, Current Opinion in Solid State and Materials Science* **15** 1 (2011)

**Itinerant Nature of Atom-Magnetization Excitation by Tunneling Electrons**

A. A. Khajetoorians, S. Lounis, B. Chilian, A. T. Costa, L. Zhou, D. L. Mills, J. Wiebe, and R. Wiesendanger, *Phys. Rev. Lett.* **106** 037205 (2011)

**Real-space mapping of a two-dimensional disordered system in the quantum Hall regime**

K. Hashimoto, J. Wiebe, T. Inaoka, Y. Hirayama, R. Wiesendanger, and M. Morgenstern, *J. Phys.: Conf. Series* **334** 012008 (2010)

**Magnetoelastic effects in nanostructures**

J. I. Arnaudas, A. Badia-Majós, L. Berbil-Bautista, M. Bode, F. J. Castano, M. Ciria, C. de la Fuente, J. L. Diez-Ferrer, S. Krause, B. G. Ng, R. C. O'Handley, C. A. Ross, and R. Wiesendanger, *The Physics of Metals and Metallography* **168** 177 (2010)

**Detecting excitation and magnetization of individual dopants in a semiconductor**

A. A. Khajetoorians, B. Chilian, J. Wiebe, S. Schuwalow, F. Lechermann, and R. Wiesendanger, *Nature* **467** 1084 (2010)

**Current driven domain wall motion in cylindrical nanowires**

R. Wieser, E. Y. Vedmedenko, P. Weinberger, and R. Wiesendanger, *Phys. Rev. B* **82** 144430 (2010)

**Controlled sequential dehydrogenation of single molecules by scanning tunneling microscopy**

N. Baadji, S. Kuck, J. Brede, G. Hoffmann, R. Wiesendanger, and S. Sanvito, *Phys. Rev. B* **82** 115447 (2010)

**Bulk Cr tips with full spatial magnetic sensitivity for spin-polarized scanning tunneling microscopy**

A. Schlenhoff, S. Krause, G. Herzog, and R. Wiesendanger, *Appl. Phys. Lett.* **97** 083104 (2010)

**An approach for automated scale invariant STM-scan matching using SIFT**

H. Bistry, B. Wolter, B. Schütz, R. Wiesendanger, and J. Zhang, *Proc. IEEE Nano 2010* **2** 897 (2010)

**Design of the Local Spin-polarization at the Organic-Ferromagnetic Interface**

N. Atodiresei, J. Brede, P. Lazic, V. Caciuc, G. Hoffmann, R. Wiesendanger, and S. Blügel, *Phys. Rev. Lett.* **105** 066601 (2010)

**Inversion of spin polarization above individual magnetic adatoms**

L. Zhou, F. Meier, J. Wiebe, and R. Wiesendanger, *Phys. Rev. B* **82** 012409 (2010)

**Spin- and Energy-Dependent Tunneling through a Single Molecule with Intramolecular Spatial Resolution**

J. Brede, N. Atodiresei, G. Hoffmann, S. Kuck, P. Lazic, V. Caciuc, Y. Morikawa, S. Blügel, and R. Wiesendanger, *Phys. Rev. Lett.* **105** 047204 (2010)

**Unambiguous Determination of the Adsorption Geometry of a Metal/Organic Complex on a Bulk Insulator**

K. Lämmle, T. Trevethan, A. Schwarz, M. Watkins, A. Shluger, and R. Wiesendanger, *Nano Letters* (2010)

**Miniaturized transportable evaporator for molecule deposition inside cryogenic scanning probe microscopes**

K. Lämmle, A. Schwarz, and R. Wiesendanger, *Rev. Sci. Instr.* **81** 053902 (2010)

**Three-electrode self-actuating self-sensing quartz cantilever: design, analysis, and experimental verification**

C. J. Chen, A. Schwarz, R. Wiesendanger, O. Horn, and J. Müller, *Rev. Sci. Instr.* **81** 053702 (2010)

**Adsorption behavior of asymmetric Pd pincer complexes on a Cu(111) surface**

S.-H. Chang, A. Scarfato, C. Kleeborg, M. Bröring, G. Hoffmann, and R. Wiesendanger, *Langmuir* **26** 10868 (2010)

**Imaging and Manipulating the Spin Direction of Individual Atoms**

D. Serrate, P. Ferriani, Y. Yoshida, S.-W. Hla, M. Menzel, K. von Bergmann, S. Heinze, A. Kubetzka and R. Wiesendanger, *Nature Nanotechnology* **5** 350 (2010)

**Controlling the state of quantum spins with electric currents**

S. Loth, K. von Bergmann, M. Ternes, A. F. Otte, C. P. Lutz, and A. J. Heinrich, *Nature Physics* **6** 340 (2010)

**Real space visualization of thermal fluctuations in a triangular flux line lattice**

A. Schwarz, M. Liebmann, U. H. Pi, and R. Wiesendanger, *New J. Phys.* **12** 033022 (2010)

**The disposition of the axial ligand in the physical vapor deposition of organometallic complexes**

S. Kuck, M. Probst, M. Funk, M. Bröring, G. Hoffmann, and R. Wiesendanger, *J. Vac. Sci. & Tech. A* **28** 795 (2010)

**Heat assisted spin torque switching of quasistable nanomagnets across a vacuum gap**

G. Herzog, S. Krause, and R. Wiesendanger, *Appl. Phys. Lett.* **96** 102505 (2010)

**Strength and directionality of surface Ruderman–Kittel–Kasuya–Yosida interaction mapped on the atomic scale**

*L. Zhou, J. Wiebe, S. Lounis, E. Vedmedenko, F. Meier, S. Blügel, P. H. Dederichs, and R. Wiesendanger*, *Nature Physics* **6** 187 (2010)

**Domain wall motion damped by the emission of spin waves**

*R. Wieser, E. Y. Vedmedenko, and R. Wiesendanger*, *Phys. Rev. B* **81** 024405 (2010)

**Nanoscale spin structures dominated by magnetoelastic interactions around dislocation cores as seen via spin-polarized STM**

*L. Berbil-Bautista, S. Krause, M. Bode, A. Badía-Majós, C. de la Fuente, R. Wiesendanger, and J. I. Arnaudas*, *Phys. Rev. B* **80** 241408(R) (2009)

**Spin mapping at the nanoscale and atomic scale**

*R. Wiesendanger*, *Rev. Mod. Phys.* **81** 1495 (2009)

**Real-Space Observation of a Right-Rotating Inhomogeneous Cycloidal Spin Spiral by Spin-Polarized Scanning Tunneling Microscopy in a Triple Axes Vector Magnet**

*S. Meckler, N. Mikuszeit, A. Preßler, E. Y. Vedmedenko, O. Pietzsch, and R. Wiesendanger*, *Phys. Rev. Lett.* **103** 157201 (2009)

**Magnetic Ground State of Single and Coupled Permalloy Rectangles**

*S. Hankemeier, R. Frömter, N. Mikuszeit, D. Stickler, H. Stillrich, S. Pütter, E. Y. Vedmedenko, and H. P. Oepen*, *Phys. Rev. Lett.* **103** 147204 (2009)

**Atomic-Level Control of the DomainWall Velocity in Ultrathin Magnets by Tuning of Exchange Interactions**

*A. Stupakiewicz, E. Y. Vedmedenko, A. Fleurence, T. Maroutian, P. Beauvillain, A. Maziewski, and R. Wiesendanger*, *Phys. Rev. Lett.* **103** 137202 (2009)

**Correction of systematic errors in scanning tunneling spectra on semiconductor surfaces: The energy gap of Si(111)-7x7 at 0.3 K**

*S. Modesti, H. Gutzmann, J. Wiebe, and R. Wiesendanger*, *Phys. Rev. B* **80** 125326 (2009)

**The monomer-to-dimer transition and bimodal growth of Co-Salen on NaCl(001): a high resolution atomic force microscopy study**

*S. Fremy, A. Schwarz, K. Lämmle, M. Prosenc, and R. Wiesendanger*, *Nanotechnology* **20** 405608 (2009)

**Magnetization Reversal of Nanoscale Islands: How Size and Shape Affect the Arrhenius Prefactor**

*S. Krause, G. Herzog, T. Stapelfeldt, L. Berbil-Bautista, M. Bode, E. Y. Vedmedenko, and R. Wiesendanger*, *Phys. Rev. Lett.* **103** 127202 (2009)

**The effect of tilted edges on the shape anisotropy and stray field coupling of uniformly magnetized rectangular elements**

*S. Pütter, N. Mikuszeit, E. Y. Vedmedenko, and H. P. Oepen*, *J. Appl. Phys.* **106** 043916 (2009)

**Quasiantiferromagnetic 120° Néel state in two-dimensional clusters of dipole-quadrupole-interacting particles on a hexagonal lattice**

*N. Mikuszeit, L. Baraban, E. Y. Vedmedenko, A. Erbe, P. Leiderer, and R. Wiesendanger*, *Phys. Rev. B* **80** (2009)

**Steering two dimensional molecular growth via dipolar interaction**

*S. Kuck, S.-H. Chang, J.-P. Klöckner, M. H. Prosenc, G. Hoffmann, and R. Wiesendanger*, *ChemPhysChem* **10** 2008 (2009)

**Dynamics of molecular self-ordering in tetraphenyl porphyrin monolayers on metallic substrates**

*J. Brede, S. Kuck, J. Schwöbel, S.-H. Chang, M. Linares, G. Hoffmann, R. Wiesendanger, A. Scarfato, R. Lensen, P. Kouwer, J. Hoogboom, A. Rowan, M. Bröring, M. Funk, S. Stafström, F. Zerbetto, and R. Lazzaroni*, *Nanotechnology* **20** 275602 (2009)

**Atomic-resolution three-dimensional force and damping maps of carbon nanotube peapods**

*M. Ashino, D. Oberfell, M. Haluska, S. Yang, A. N. Khlobystov, S. Roth, and R. Wiesendanger*, *Nanotechnology* **20** 264001 (2009)

**Hydrogen-related contrast in atomic force microscopy**

*R. Schmidt, A. Schwarz, and R. Wiesendanger*, *Nanotechnology* **20** 264007 (2009)

**Towards an understanding of the atomic scale magnetic contrast formation in NC-AFM: a tip material dependent MExFM study on Ni**

*A. Schwarz, U. Kaiser, and R. Wiesendanger*, *Nanotechnology* **20** 264017 (2009)

**Magnetismus im Nanokosmos**

*H. Fuchs and R. Wiesendanger*, *nanoTECHNOLOGIE aktuell* **2** 10-18 (2009)

**Revealing Subsurface Vibrational Modes by Atom-Resolved Damping Force Spectroscopy**

*M. Ashino, R. Wiesendanger, A. N. Khlobystov, S. Berber, and D. Tománek*, *Phys. Rev. Lett.* **102** 195503 (2009)

**Quantized spin waves in ferromagnetic and antiferromagnetic structures with domain walls**

*R. Wieser, E. Y. Vedmedenko, and R. Wiesendanger*, *Phys. Rev. B* **79** 144412 (2009)

**Adsorption and Conformation of Porphyrins on Metallic Surfaces**

*J. Brede, M. Linares, R. Lensen, A. E. Rowan, M. Funk, M. Bröring, G. Hoffmann, and R. Wiesendanger, J. Vac. Sci. & Tech. B* **27(2)** 799 (2009)

**A low-temperature spin-polarized scanning tunneling microscope operating in a fully rotatable magnetic field**

*S. Meckler, M. Gyamfi, O. Pietzsch, R. Wiesendanger, Rev. Sci. Instr.* **80** 023708 (2009)

**Wavefunction Mapping of Immobilized InP Semiconductor Nanocrystals**

*G. Maruccio, Chr. Meyer, T. Matsui, D. V. Talapin, S. G. Hickey, H. Weller, and R. Wiesendanger, Small* **5** 808 (2009)

**Probing the Magnetic Exchange Forces of Iron on the Atomic Scale**

*R. Schmidt, C. Lazo, H. Hölscher, U. H. Pi, V. Caciuc, A. Schwarz, R. Wiesendanger, and S. Heinze, Nano Letters* **9** 200 (2009)

**Symmetry reduction of metal phthalocyanines on metals**

*S.-H. Chang, S. Kuck, J. Brede, L. Lichtenstein, G. Hoffmann, and R. Wiesendanger, Phys. Rev. B* **78** 233409 (2008)

**Quantum Hall Transition in Real Space: From Localized to Extended States**

*K. Hashimoto, C. Sohrmann, J. Wiebe, T. Inaoka, F. Meier, Y. Hirayama, R. A. Römer, R. Wiesendanger, and M. Morgenstern, Phys. Rev. Lett.* **101** 256802 (2008)

**Quantized Spin Waves in Antiferromagnetic Heisenberg Chains**

*R. Wieser, E. Y. Vedmedenko, and R. Wiesendanger, Phys. Rev. Lett.* **101** 177202 (2008)

**"Naked" Iron-5,10,15-triphenylcorrole on Cu(111): Observation of Chirality on a Surface and Manipulation of Multiple Conformational States by STM**

*S. Kuck, G. Hoffmann, M. Bröring, M. Fechtner, M. Funk, and R. Wiesendanger, J. Am. Chem. Soc.* **130** 14072 (2008)

**The role of magnetic anisotropy in the Kondo effect**

*A. F. Otte, M. Ternes, K. von Bergmann, S. Loth, H. Brune, C. P. Lutz, C. F. Hirjibehedin, and A. J. Heinrich, Nature Physics* **4** 847 (2008)

**Evaluating local properties of magnetic tips utilizing an antiferromagnetic surface**

*U. Kaiser, A. Schwarz, and R. Wiesendanger, Phys. Rev. B* **78** 104418 (2008)

**Anisotropic superexchange in one-dimensional Fe-chains on InAs(110)**

*L. Sacharow, R. Wiesendanger, G. Bihlmayer, S. Blügel and M. Morgenstern, Surf. Sci.* **602** 3297 (2008)

**A versatile variable-temperature scanning tunneling microscope for molecular growth**

*S. Kuck, J. Wienhausen, G. Hoffmann, and R. Wiesendanger, Rev. Sci. Instr.* **79** 083903 (2008)

**Atomic-Scale Spin Spiral with a Unique Rotational Sense: Mn Monolayer on W(001)**

*P. Ferriani, K. von Bergmann, E. Y. Vedmedenko, S. Heinze, M. Bode, M. Heide, G. Bihlmayer, S. Blügel, and R. Wiesendanger, Phys. Rev. Lett.* **101** 027201 (2008)

**In search of multipolar order on the Penrose tiling**

*E. Y. Vedmedenko, S. Even-Dar Mandel, R. Lifshitz, Phil. Mag.* **88** 2197 (2008)

**Complex magnetic order on the atomic scale revealed by spin-polarized scanning tunnelling microscopy**

*K. von Bergmann, M. Bode, A. Kubetzka, O. Pietzsch, E. Y. Vedmedenko, R. Wiesendanger, Phil. Mag.* **88** 2627 (2008)

**Atomically resolved mechanical response of individual metallofullerene molecules confined inside carbon nanotubes**

*M. Ashino, D. Oberfell, M. Haluška, S. Yang, A. N. Khlobystov, S. Roth, and R. Wiesendanger, Nature Nanotechnology* **3** 337 (2008)

**Magnetic properties of single atoms of Fe and Co on Ir(111) and Pt(111)**

*C. Etz, J. Zabloudil, P. Weinberger, E. Y. Vedmedenko, Phys. Rev. B* **77** 184425 (2008)

**Magnetization reversal of microstructured kagome lattices**

*A. Westphalen, A. Schumann, A. Remhof, H. Zabel, M. Karolak, B. Baxevanis, E. Y. Vedmedenko, T. Last, U. Kunze, T. Eimüller, Phys. Rev. B* **77** 174407 (2008)

**Modulated multipolar structures in magnetic arrays**

*E. Y. Vedmedenko, R. Wiesendanger, Phil. Mag.* **88** 2683 (2008)

**Revealing Magnetic Interactions from Single-Atom Magnetization Curves**

*F. Meier, L. Zhou, J. Wiebe, and R. Wiesendanger, Science* **320** 82 (2008)

**Magnetostatic interactions on a square lattice**

*A. Remhof, A. Schumann, A. Westphalen, H. Zabel, N. Mikuszeit, E. Y. Vedmedenko, T. Last, and U. Kunze, Phys. Rev. B* **77** 134409 (2008)

**Effect of charge manipulation on scanning tunneling spectra of single Mn acceptors in InAs**

*F. Marczinowski, J. Wiebe, F. Meier, K. Hashimoto, and R. Wiesendanger, Phys. Rev. B* **77** 115318 (2008)

**Entropy driven phase transition in itinerant antiferromagnetic monolayers**

*R. Wieser, E. Y. Vedmedenko, and R. Wiesendanger, Phys. Rev. B* **77** 064410 (2008)

**Metal-Insulator Transition in Graphite: A Comparison to Heterostructures with High Carrier Mobility**

*E. V. Konenkova, D. Grundler, M. Morgenstern, and R. Wiesendanger, Techn. Phys. Lett.* **34** 30 (2008)

**Scanning tunneling microscope study of iron(II) phthalocyanine growth on metal and insulating surfaces**

*A. Scarfato, S.-H. Chang, S. Kuck, J. Brede, G. Hoffmann, and R. Wiesendanger, Surf. Sci.* **602** 677 (2008)

**Structure and magnetism of ultra-thin chromium layers on W(110)**

*B. Santos, J. M. Puerta, J. I. Cerda, R. Stumpf, K. von Bergmann, R. Wiesendanger, M. Bode, K. F. McCarty, and J. de la Figuera, New J. Phys.* **10** 13005 (2008)

**Comment on "Three-Dimensional, Spin-Resolved Structure of Magnetic Vortex and Antivortex States in Patterned Co Films Using Scanning Ion Microscopy with Polarization Analysis"**

*M. Bode, O. Pietzsch, A. Kubetzka, W. Wulfhekkel, D. McGrouther, S. McVitie, and J. N. Chapman, Phys. Rev. Lett.* **100** 029703 (2008)

**Magnetismus mit Dreh**

*K. von Bergmann, M. Bode, R. Wiesendanger, Phys. Unserer Zeit* **39** 93 (2008)

**Complex magnetism of the Fe monolayer on Ir(111)**

*K. von Bergmann, S. Heinze, M. Bode, G. Bihlmayer, S. Blügel, and R. Wiesendanger, New Journ. Phys.* **9** 396 (2007)

**Chiral magnetic ordering in two-dimensional ferromagnets with competing Dzyaloshinsky-Moriya interactions**

*E.Y. Vedmedenko, L. Udvardi, P. Weinberger, R. Wiesendanger, Phys. Rev. B* **75** 104431 (2007)

**Multipole moments of general ellipsoids with two polarized domains**

*M. Schult, N. Mikuszeit, E. Y. Vedmedenko and R. Wiesendanger, J. Phys. A* **40** 14791 (2007)

**Local Electronic Structure near Mn Acceptors in InAs: Surface-Induced Symmetry Breaking and Coupling to Host States**

*F. Marczinowski, J. Wiebe, J.-M. Tang, M. E. Flatte, F. Meier, M. Morgenstern, and R. Wiesendanger, Phys. Rev. Lett.* **99** 157202 (2007)

**Current-Induced Magnetization Switching with a Spin-Polarized Scanning Tunneling Microscope**

*S. Krause, L. Berbil-Bautista, G. Herzog, M. Bode, and R. Wiesendanger, Science* **317** 1537 (2007)

**Spin-polarized scanning tunneling microscopy and spectroscopy of ferromagnetic Dy(0001)/W(110) films**

*L. Berbil-Bautista, S. Krause, M. Bode, and R. Wiesendanger, Phys. Rev. B* **76** 064411 (2007)

**Correlation Effects in Wave Function Mapping of Molecular Beam Epitaxy Grown Quantum Dots**

*G. Maruccio, M. Janson, A. Schramm, C. Meyer, T. Matsui, C. Heyn, W. Hansen, R. Wiesendanger, M. Rontani, E. Molinari, Nano Letters* **7** 2701 (2007)

**Spin-polarized scanning tunneling microscopy in field emission mode**

*A. Kubetzka, M. Bode, and R. Wiesendanger, Appl. Phys. Lett.* **91** 012508 (2007)

**On the preparation and electronic properties of clean W(110) surfaces**

*M. Bode, S. Krause, L. Berbil-Bautista, S. Heinze and R. Wiesendanger, Surf. Sci.* **601** 3308 (2007)

**Lorentz covariance and the crossover of two-dimensional antiferromagnets**

*P. Crompton, Phys. Rev. B* **75** 174520 (2007)

**Chiral magnetic order at surfaces driven by inversion asymmetry**

*M. Bode, M. Heide, K. von Bergmann, P. Ferriani, S. Heinze, G. Bihlmayer, A. Kubetzka, O. Pietzsch, S. Blügel, and R. Wiesendanger, Nature* **447** 190 (2007)

**Imaging correlated wave functions of few-electron quantum dots: Theory and scanning tunneling spectroscopy experiments**

*M. Rontani, E. Molinari, G. Maruccio, M. Janson, A. Schramm, Chr. Meyer, T. Matsui, Chr. Heyn, W. Hansen, and R. Wiesendanger, J. Appl. Phys.* **101** 081714 (2007)

**Electronic states of Fe atoms and chains on InAs(110) from scanning tunneling spectroscopy**

*T. Matsui, Chr. Meyer, L. Sacharow, J. Wiebe, and R. Wiesendanger, Phys. Rev. B* **75** 165405 (2007)

**Influence of the lattice discreteness on magnetic ordering in nanostructures and nanoarrays**

*E. Y. Vedmedenko, phys. stat. sol. (b)* **244** 1133 (2007)

**Magnetic exchange force microscopy with atomic resolution**

*U. Kaiser, A. Schwarz, and R. Wiesendanger, Nature* **446** 522 (2007)

**Local electronic signatures of impurity states in graphene**

*T. Wehling, A. V. Balatsky, M. I. Katsnelson, A. I. Lichtenstein, K. Scharnberg, and R. Wiesendanger, Phys. Rev. B* **75** 125425 (2007)

**Mapping spin structures on the atomic scale**

*R. Wiesendanger, Europhysics News* **38** 16 (2007)

**Pros and cons: cryo-electron microscopic evaluation of block faces versus cryo-sections from frozen-hydrated skin specimens prepared by different techniques**

*T. Richter, S. S. Biel, M. Sattler, H. Wenck, K.-P. Wittern, R. Wiesendanger, and R. Wepf, J. Microsc.* **225** 201 (2007)

**Co double-layer nanostructures on Pt(111) studied by spin-polarized scanning tunnelling microscopy**

*F. Meier, K. von Bergmann, J. Wiebe, M. Bode, and R. Wiesendanger, J. Phys. D* **40** 1306 (2007)

**MExFM - A New Force Microscopy Based Technique to Study Atomic Scale Magnetism**

*A. Schwarz, Conference Proceedings EAST 2007* **1** 32 (2007)

**Spin-dependent electronic and magnetic properties of Co nanostructures on Pt(111) studied by spin-resolved scanning tunneling spectroscopy**

*F. Meier, K. von Bergmann, P. Ferriani, J. Wiebe, M. Bode, K. Hashimoto, S. Heinze, and R. Wiesendanger, Phys. Rev. B* **74** 195411 (2006)

**Leading corrections to finite-size scaling for mixed-spin chains**

*R. Bischof and P. R. Crompton, JETP Letters* **84** 613 (2006)

**Consequences of line defects on the magnetic structure of high anisotropy films: Pinning centers on Dy/W(110)**

*S. Krause, L. Berbil-Bautista, T. Hänke, F. Vonau, M. Bode, and R. Wiesendanger, Europhys. Lett.* **76** 637 (2006)

**A perturbation theory of exchange interaction**

*C. J. Chen and R. Wiesendanger, Phys. Rev. B* **74** 113102 (2006)

**Vortex fluctuations and ordering of dipolar-coupled granular moments in thin ferromagnetic films**

*J. Kötzler, D. Görlitz, M. Kurfiß, L. von Sawilski, and E. Y. Vedmedenko, Phys. Rev. B* **73** 224425 (2006)

**Spin-Resolved Electronic Structure of Nanoscale Cobalt Islands on Cu(111)**

*O. Pietzsch, S. Okatov, A. Kubetzka, M. Bode, S. Heinze, A. Lichtenstein, and R. Wiesendanger, Phys. Rev. Lett.* **96** 237203 (2006)

**Atomic spin structure of antiferromagnetic domain walls**

*M. Bode, E. Y. Vedmedenko, K. von Bergmann, A. Kubetzka, P. Ferriani, S. Heinze, and R. Wiesendanger, Nature Materials* **5** 477 (2006)

**Observation of a complex nanoscale magnetic structure in a hexagonal Fe monolayer**

*K. von Bergmann, S. Heinze, M. Bode, E. Y. Vedmedenko, G. Bihlmayer, S. Blügel, and R. Wiesendanger, Phys. Rev. Lett.* **96** 167203 (2006)

**Visualizing the flux distribution of superconductors in external magnetic fields by magnetic force microscopy**

*U. H. Pi, Z. G. Khim, D. H. Kim, A. Schwarz, M. Liebmann, and R. Wiesendanger, Phys. Rev. B* **73** 144505 (2006)

**Atomic-Resolution Dynamic Force Microscopy and Spectroscopy of an Individual Single-Walled Carbon Nanotube**

*M. Ashino and R. Wiesendanger, Jpn. J. Appl. Phys.* **45** (3B) 2286 (2006)

**Possibility of imaging lateral profiles of individual tetrahedral hybrid orbitals in real space**

*C. J. Chen*, *Nanotechnology* **17** S195 (2006)

**Spin-polarized scanning tunneling spectroscopy of dislocation lines in Fe films on W(110)**

*M. Bode, K. von Bergmann, A. Kubetzka, O. Pietzsch, and R. Wiesendanger*, *J. Magn. Magn. Mater.* **304** 1 (2006)

**Comment on "Signature of a Chemical Bond in the Conductance between Two Metal Surfaces"**

*C. J. Chen*, *Phys. Rev. Lett.* **96** 069701 (2006)

**Coverage-dependent spin reorientation transition temperature of the Fe double-layer on W(110) observed by scanning tunneling microscopy**

*K. von Bergmann, M. Bode, and R. Wiesendanger*, *J. Magn. Magn. Mater.* **305** 279 (2006)

**Spin-polarized scanning tunneling microscopy through an adsorbate layer: Sulfur-covered Fe/W(110)**

*L. Berbil-Bautista, S. Krause, T. Hänke, M. Bode, and R. Wiesendanger*, *Surf. Sci. Lett.* **600** L20 (2006)

**Growth of Cr on Ir(111) studied by scanning tunneling microscopy**

*F. Marczinowski, K. von Bergmann, M. Bode, and R. Wiesendanger*, *Surf. Sci.* **600** 1034 (2006)

**Observation of the flux-antiflux boundary propagation during magnetization reversal in Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8</sub>+ $\delta$  crystal with single vortex resolution**

*A. Schwarz, M. Liebmann, R. Wiesendanger, U. H. Pi, Z. G. Khim, and D. H. Kim*, *Appl. Phys. Lett.* **88** 012507 (2006)

**Interplay between magnetic and spatial order in Quasicrystals**

*E. Y. Vedmedenko, U. Grimm, and R. Wiesendanger*, *Philosophical Magazine* **86** 733-739 (2006)

**Unoccupied surface state on Pt(111) revealed by scanning tunneling spectroscopy**

*J. Wiebe, F. Meier, K. Hashimoto, G. Bihlmayer, S. Blügel, P. Ferriani, S. Heinze, and R. Wiesendanger*, *Phys. Rev. B* **72** 193406 (2005)

**Multipolar Ordering and Magnetization Reversal in Two-Dimensional Nanomagnet Arrays**

*E. Y. Vedmedenko, N. Mikuszeit, H. P. Oepen, and R. Wiesendanger*, *Phys. Rev. Lett.* **95** 207202 (2005)

**Temperature-dependent scanning tunneling spectroscopy of Cr(001): Orbital Kondo resonance versus surface state**

*T. Hänke, M. Bode, S. Krause, L. Berbil-Bautista, and R. Wiesendanger*, *Phys. Rev. B* **72** 085453 (2005)

**Absence of spin-flip transition at the Cr(001) surface: A combined spin-polarized scanning tunneling microscopy and neutron scattering study**

*T. Hänke, S. Krause, L. Berbil-Bautista, M. Bode, R. Wiesendanger, V. Wagner, D. Lott, and A. Schreyer*, *Phys. Rev. B* **71** 184407 (2005)

**Multipole moments of the in-plane magnetized nanodiscs**

*N. Mikuszeit, E. Y. Vedmedenko, R. Wiesendanger, and H. P. Oepen*, *J. Appl. Phys.* **97** 10J502 (2005)

**Imaging the Switching Behavior of Superparamagnetic Nanoislands by Spin-Polarized Scanning Tunneling Microscopy**

*M. Bode, A. Kubetzka, K. von Bergmann, O. Pietzsch, and R. Wiesendanger*, *J. Microsc. Res. & Techn.* **66** 117 (2005)

**Fifteen Years of Spin-Polarized Scanning Tunneling Microscopy**

*R. Wiesendanger*, *J. Microsc. Res. & Techn.* **66** 59 (2005)

**Spin-polarized scanning tunneling microscopy: Insight into magnetism from nanostructures to atomic scale spin structures**

*K. von Bergmann, M. Bode, A. Kubetzka, O. Pietzsch, and R. Wiesendanger*, *J. Microsc. Res. & Techn.* **66** 61 (2005)

**Lattice-dependent anisotropy in the orientation of magnetic domain walls**

*E. Y. Vedmedenko, K. von Bergmann, H. P. Oepen, and R. Wiesendanger*, *J. Magn. Magn. Mater.* **290-291** 746 (2005)

**Magnetization reversal of a structurally disordered manganite thin film with perpendicular anisotropy**

*M. Liebmann, A. Schwarz, U. Kaiser, R. Wiesendanger, D.-W. Kim, and T. W. Noh*, *Phys. Rev. B* **71** 104431 (2005)

**Revealing Antiferromagnetic Order of the Fe Monolayer on W(001): Spin-Polarized Scanning Tunneling Microscopy and First-Principles Calculations**

*A. Kubetzka, P. Ferriani, M. Bode, S. Heinze, G. Bihlmayer, K. von Bergmann, O. Pietzsch, S. Blügel, and R. Wiesendanger*, *Phys. Rev. Lett.* **94** 87204 (2005)

**Growth and Magnetism of Fe on Cr(001): A Spin-Polarized Scanning Tunneling Spectroscopy and Magnetic Force Microscopy Study**

*M. Bode, R. Ravlic, M. Kleiber, and R. Wiesendanger, Appl. Phys. A* **80** 907 (2005)

**A universal relation in NC-AFM, STM, and atom manipulation**

*C. J. Chen, Nanotechnology* **16** S27 (2005)

**Die Festplatte von Übermorgen**

*H. Fuchs and R. Wiesendanger, Industrie Management* **21 (6)** 17 (2005)

**Interpretation of the atomic scale contrast obtained on graphite and single-walled carbon nanotubes in the dynamic mode of atomic force microscopy**

*M. Ashino, A. Schwarz, H. Hölscher, U.D. Schwarz, and R. Wiesendanger, Nanotechnology* **16** 134 (2005)

**Spin-polarized scanning tunneling microscopy of antiferromagnetic surfaces**

*M. Bode, R. Ravlic, M. Kleiber, and R. Wiesendanger, Nova Acta Leopoldina* **340** 61 (2005)

**Barkhausen noise visualized in real space**

*A. Schwarz and M. Liebmann, Proceedings of SPIE* **5843** 52 (2005)

**Magnetism of iron on tungsten(001) studied by spin-resolved scanning tunneling microscopy and spectroscopy.**

*K. von Bergmann, M. Bode, and R. Wiesendanger, Phys. Rev. B* **70** 174455 (2004)

**Dynamic force spectroscopy across an individual strongly pinned Vortex in a Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8</sub>+ $\delta$  single crystal.**

*U. H. Pi, Z. G. Khim, D. H. Kim, A. Schwarz, M. Liebmann, and R. Wiesendanger, Appl. Phys. Lett.* **85** 5307 (2004)

**Multipole interaction of polarized single-domain particles**

*N. Mikuszeit, E. Y. Vedmedenko, and H. P. Oepen, J. Phys. C* **16** 9037 (2004)

**The Environment Matters - Even on the Atomic Scale**

*M. Bode, Science* **306** 234 (2004)

**Atomic-resolution dynamic force microscopy and spectroscopy of a single walled carbon nanotube: characterization of interatomic van der Waals forces.**

*M. Ashino, A. Schwarz, T. Behnke, and R. Wiesendanger, Phys. Rev. Lett.* **93** 136101 (2004)

**Controlled preparation of a magnetic thin film alloy: GdFe<sub>2</sub> and GdFe<sub>3</sub>**

*M. Getzlaff, R. Pascal, and R. Wiesendanger, Surf. Sci.* **566** 236 (2004)

**Observation of 5f-states on U/W(110) films by means of scanning tunneling spectroscopy**

*L. Berbil-Bautista, T. Hänke, M. Getzlaff, R. Wiesendanger, J. Opahle, K. Koepernitz, and M. Richter, Phys. Rev. B* **70** 113401 (2004)

**Contributions of escape depth to photoelectron intensity of a well defined initial state**

*M. Morgenstern, T. Strasser, R. Adelung, M. Getzlaff, L. Kipp, W. Schattke, M. Skibowski, and R. Wiesendanger, Phys. Rev. B* **70** 81305 (2004)

**Noncollinear magnetic order in quasicrystals.**

*E. Y. Vedmedenko, U. Grimm, and R. Wiesendanger, Phys. Rev. Lett.* **93** 76407 (2004)

**Scanning tunneling spectroscopy on cobalt(0001): spectroscopic signature of stacking faults and dislocation lines.**

*J. Wiebe, L. Sacharow, A. Wachowiak, G. Bihlmayer, S. Heinze, S. Blügel, M. Morgenstern, and R. Wiesendanger, Phys. Rev. B* **70** 35404 (2004)

**A 300 mK ultra-high vacuum scanning tunneling microscope for spin-resolved spectroscopy at high energy resolution**

*J. Wiebe, A. Wachowiak, F. Meier, D. Haude, T. Foster, M. Morgenstern, and R. Wiesendanger, Review of Scientific Instruments* **75** 4871 (2004)

**Direct observation of the vortices trapped in stacking fault dislocations of Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8</sub> by a low-temperature magnetic force microscope.**

*U. H. Pi, Z. G. Khim, D. H. Kim, A. Schwarz, M. Liebmann, and R. Wiesendanger, Phys. Rev. B* **69** 94518 (2004)

**Spin-polarized electron scattering at single oxygen adsorbates on a magnetic surface**

*K. von Bergmann, M. Bode, A. Kubetzka, M. Heide, S. Blügel, and R. Wiesendanger, Phys. Rev. Lett.* **92** 46801 (2004)

**High spin polarization at the Fe/InAs(110) interface.**

*L. Sacharow, G. Bihlmayer, S. Blügel, and M. Morgenstern, Phys. Rev. B* **69** 85317 (2004)

**Visualization of the Barkhausen Effect by Magnetic Force Microscopy.**

*A. Schwarz, M. Liebmann, U. Kaiser, R. Wiesendanger, T. W. Noh, and D. W. Kim, Phys. Rev. Lett. 92 77206 (2004)*

**Domain Wall Orientation in Magnetic Nanowires**

*E. Y. Vedmedenko, A. Kubetzka, K. von Bergmann, O. Pietzsch, M. Bode, J. Kirschner, H. P. Oepen, and R. Wiesendanger, Phys. Rev. Lett. 92 77207 (2004)*

**Shape dependent Thermal Switching Behavior of Superparamagnetic Nanoislands.**

*M. Bode, O. Pietzsch, A. Kubetzka and R. Wiesendanger, Phys. Rev. Lett. 92 67201 (2004)*

**Thickness dependent magnetization states of Fe islands on W(110): From single domain to vortex and diamond patterns.**

*M. Bode, A. Wachowiak, J. Wiebe, A. Kubetzka, M. Morgenstern, and R. Wiesendanger, Appl. Phys. Lett. 84 948 (2004)*

**Tilted magnetization of a La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub>/LaAlO<sub>3</sub> (001) thin film**

*M. Liebmann, U. Kaiser, A. Schwarz, R. Wiesendanger, U. H. Pi, T. W. Noh, Z. G. Khim, and D. W. Kim, J. Magn. Magn. Mater. 280 51 (2004)*

**Spin-polarized scanning tunneling spectroscopy of nano-scale cobalt islands on Cu(111)**

*O. Pietzsch, A. Kubetzka, M. Bode, and R. Wiesendanger, Phys. Rev. Lett. 92 57202 (2004)*

**Fundamental studies of magnetism down to the atomic scale: present status and future perspectives of spin-polarized scanning tunneling microscopy.**

*R. Wiesendanger, M. Bode, A. Kubetzka, O. Pietzsch, M. Morgenstern, A. Wachowiak, and J. Wiebe, J. Magn. Magn. Mater. 272-276 2115 (2004)*

**Assessing the performance of two-dimensional dopant profiling techniques**

*N. Duhayon, P. Eyben, M. Fouchier, T. Clarysse, W. Vandervorst, D. Alvarez, S. Schoemann, M. Ciappa, M. Stangoni, W. Fichtner, P. Formanek, M. Kittler, V. Raineri, F. Giannazzo, D. Goghero, Y. Rosenwaks, R. Shikler, S. Saraf, S. Sadewasser, N. Barreau, T. Glatzel, M. Verheijen, S. A. M. Mentink, M. von Sprekelsen, T. Maltezopoulos, R. Wiesendanger, and L. Hellemans, J. Vac. Sci. & Tech. B 22 385 (2004)*

**Recent Advances in Spin-Polarized Scanning Tunneling Microscopy.**

*O. Pietzsch, A. Kubetzka, M. Bode, and R. Wiesendanger, Appl. Phys. A 78 781 (2004)*

**Dead but highly dynamic - the stratum corneum is divided into three hydration zones.**

*T. Richter, C. Peuckert, M. Sattler, K. König, I. Riemann, U. Hintze, K.-P. Wittern, R. Wiesendanger, and R. Wepf, Skin Pharmacol Physiol 17 246 (2004)*

**Quasiperiodic magnetic Order and geometrical Frustration on the Penrose Tiling**

*E. Y. Vedmedenko, Ferroelectrics 305 129 (2004)*

**Visualizing the influence of interactions on the nanoscale: simpleelectron systems.**

*M. Morgenstern, J. Klijn, C. Meyer, D. Haude, and R. Wiesendanger, Proc. STM'03 Conference, Eindhoven, NL (eds. P. M. Koenraad and M. Kemerink), AIP Conf. Proc. 696 11 (2003)*

**Three-dimensional force field spectroscopy.**

*A. Schwarz, H. Hölscher, S. M. Langkat, and R. Wiesendanger, Proc. STM'03 Conference, Eindhoven, NL (eds. P. M. Koenraad and M. Kemerink), AIP Conf. Proc. 696 68 (2003)*

**STM measurements on the InAs(110) surface directly compared with surface electronic structure calculations.**

*J. Klijn, L. Sacharow, C. Meyer, S. Blügel, M. Morgenstern, and R. Wiesendanger, Phys. Rev. B 68 205327 (2003)*

**Wave function mapping of InAs quantum dots by scanning tunneling spectroscopy.**

*Th. Maltezopoulos, A. Bolz, Chr. Meyer, Ch. Heyn, W. Hansen, M. Morgenstern, and R. Wiesendanger, Phys. Rev. Lett. 91 196804 (2003)*

**Correlation of structural, local electronic and magnetic properties of Fe on Cr(001) studied by spin-polarized scanning tunneling spectroscopy.**

*R. Ravlic, M. Bode, and R. Wiesendanger, J. Phys.: Condens. Matter 15 S2513 (2003)*

**Direct measurement of the local density of states of a disordered one-dimensional conductor.**

*C. Meyer, J. Klijn, M. Morgenstern, and R. Wiesendanger, Phys. Rev. Lett. 91 76803 (2003)*

**Low density two-dimensional electron systems studied by scanning tunneling spectroscopy.**

*M. Morgenstern, J. Klijn, Chr. Meyer, M. Getzlaff, R. L. Johnson, R. Adelung, L. Kipp, R. A. Römer, and R. Wiesendanger, Jpn. J. Appl. Phys. 42 4809 (2003)*

**From quantized states to percolation: Scanning tunneling spectroscopy of a strongly disordered two-dimensional electron system.**

*J. Wiebe, Chr. Meyer, J. Klijn, M. Morgenstern, and R. Wiesendanger, Phys. Rev. B* **68** 41402 (2003)

**Frozen hydrated bloc-face investigation of tissue for Cryo-SEM.**

*T. Richter, M. Sattler, R. Wiesendanger, K.-P. Wittern, and R. Wepf, Microscopy and Microanalysis* **9** 1546 (2003)

**Spin-polarized STM investigation of magnetic domain walls.**

*A. Kubetzka, O. Pietzsch, M. Bode, R. Ravlic, and R. Wiesendanger, Acta Physica Polonica A* **104** 259 (2003)

**Surface electronic properties of Fe nanoparticles on c(2x2)-N/Cu(001)**

*M. Getzlaff, M. Bode, and R. Wiesendanger, Acta Physica Polonica A* **104** 327 (2003)

**Vortex dynamics in Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8</sub> single crystals with low density columnar defects studied by magnetic force microscopy.**

*U. H. Pi, D. H. Kim, Z. G. Khim, U. Kaiser, M. Liebmann, A. Schwarz, and R. Wiesendanger, Proc. Int. Conf. Physics and Chemistry of Molecular and Oxide Superconductors, J. Low Temp. Phys.* **131** 993 (2003)

**Direct observation of confined states in individual metallic single wall carbon nanotubes.**

*Th. Maltezopoulos, A. Kubetzka, M. Morgenstern, R. Wiesendanger, S. G. Lemay, and C. Dekker, Appl. Phys. Lett.* **83** 1011 (2003)

**Probing the Local Density of States of Dilute Electron Systems in Different Dimensions.**

*M. Morgenstern, Surface Review and Letters* **10** 933-962 (2003)

**Evidence of a topological antiferromagnetic order on ultrathin Cr(001) film surface studied by spin-polarized scanning tunneling spectroscopy**

*T. Kawagoe, Y. Suzuki, M. Bode, and K. Koike, J. Appl. Phys.* **93** 6575 (2003)

**Domain nucleation and growth of La<sub>0.7</sub>Ca<sub>0.3</sub>Mn<sub>0.3- $\delta$</sub> /LaAlO<sub>3</sub> films studied by low temperature MFM.**

*M. Liebmann, U. Kaiser, A. Schwarz, R. Wiesendanger, U. H. Pi, T. W. Noh, Z. G. Khim and D.-W. Kim, J. Appl. Phys.* **93** 8319 (2003)

**Correlation of dislocation and domain structure of Cr(001) investigated by spin-polarized scanning tunneling microscopy.**

*R. Ravlic, M. Bode, A. Kubetzka, and R. Wiesendanger, Phys. Rev. B* **67** 174411 (2003)

**Determining the spin-polarization of surfaces by spin-polarized scanning tunneling spectroscopy.**

*A. Kubetzka, O. Pietzsch, M. Bode, and R. Wiesendanger, Appl. Phys. A* **76** 873 (2003)

**A cryogenic scanning force microscope for the characterization of frozen biological samples**

*J.H. Müller, U.D. Schwarz, R. Wepf, and R. Wiesendanger, Appl. Phys. A* **76** 893 (2003)

**Determination of site specific interatomic forces between an iron coated tip and the NiO(001) surface by force field spectroscopy.**

*S. M. Langkat, H. Hölscher, A. Schwarz, and R. Wiesendanger, Surf. Sci.* **527** 12 (2003)

**Real-space observation of drift states in a two-dimensional electron system at high magnetic fields.**

*M. Morgenstern, J. Klijn, Chr. Meyer, and R. Wiesendanger, Phys. Rev. Lett.* **90** 56804 (2003)

**Impurity-induced resistivity of ferroelastic domain walls in doped lead phosphate.**

*M. Bartels, V. Hagen, M. Burianek, M. Getzlaff, U. Bismayer, and R. Wiesendanger, J. Phys.: Condens. Matter* **15** 957 (2003)

**Spin-orbit induced local band structure variations revealed by scanning tunneling spectroscopy.**

*M. Bode, A. Kubetzka, S. Heinze, O. Pietzsch, R. Wiesendanger, M. Heide, X. Nie, G. Bihlmayer, and S. Blügel, J. Phys.: Condens. Matter* **15** S679 (2003)

**Spin-polarized scanning tunneling microscopy study of 360° walls in an external magnetic field.**

*A. Kubetzka, O. Pietzsch, M. Bode, and R. Wiesendanger, Phys. Rev. B* **67** 20401 (2003)

**Comparing the local density of states of three- and two-dimensional electron systems by low-temperature scanning tunneling spectroscopy.**

*M. Morgenstern, D. Haude, J. Klijn, Chr. Meyer, L. Sacharow, S. Heinze, S. Blügel, and R. Wiesendanger, Physica E* **16** 121 (2003)

**Comparative study of MeV C<sup>+</sup> and C<sup>++</sup> ions implantation in GaAs(100): surface roughness and evaluation of lattice strain.**

*G. Kuri, G. Materlik, V. Hagen, and R. Wiesendanger, J. Vac. Sci. & Tech. B* **21** 1134 (2003)

**Comparing measured and calculated local density of states in a disordered two-dimensional electron system**

*M. Morgenstern, J. Klijn, Chr. Meyer, R. A. Römer, and R. Wiesendanger, Physica B* **329-333** 1536 (2003)

**Magnetization-direction dependent local electronic structure probed by scanning tunneling spectroscopy.**

*M. Bode, S. Heinze, A. Kubetzka, O. Pietzsch, X. Nie, G. Bihlmayer, S. Blügel, and R. Wiesendanger, Phys. Rev. Lett.* **89** 237205 (2002)

**Al<sub>2</sub>O<sub>3</sub>-films on Ni<sub>3</sub>Al(111): a template for nanostructured cluster growth**

*C. Becker, A. Rosenhahn, A. Wiltner, K. von Bergmann, J. Schneider, P. Pervan, M. Milun, M. Kralj, and K. Wandelt, New Journal of Physics* **4** 75 (2002)

**Coulomb pseudogap caused by partial localization of a three dimensional electron system in the extreme quantum limit.**

*M. Morgenstern, D. Haude, J. Klijn, and R. Wiesendanger, Phys. Rev. B* **66** 121102(R) (2002)

**Direct comparison of potential landscape and resulting local density of states of a disordered two-dimensional electron system.**

*M. Morgenstern, J. Klijn, Chr. Meyer, M. Getzlaff, R. Adelung, K. Roßnagel, L. Kipp, M. Skibowski, and R. Wiesendanger, Phys. Rev. Lett.* **89** 136806 (2002)

**Spin-resolved spectro-microscopy of magnetic nanowire arrays.**

*M. Bode, A. Kubetzka, O. Pietzsch, and R. Wiesendanger, Surf. Sci.* **514** 135 (2002)

**Measurement of three-dimensional force fields with atomic resolution using dynamic force spectroscopy.**

*H. Hölscher, S. M. Langkat, A. Schwarz, and R. Wiesendanger, Appl. Phys. Lett.* **81** 4428 (2002)

**Structural, electronic, and magnetic properties of a Mn monolayer on W(110).**

*M. Bode, S. Heinze, A. Kubetzka, O. Pietzsch, M. Hennefarth, M. Getzlaff, R. Wiesendanger, X. Nie, G. Bihlmayer, and S. Blügel, Phys. Rev. B* **66** 014425 (2002)

**Nano-scale studies of quantum phenomena by scanning probe spectroscopy.**

*Wiesendanger, Vacuum* **65** 235 (2002)

**Co on p-InAs(110): An island induced two-dimensional electron system consisting of electron droplets.**

*M. Morgenstern, J. Wiebe, A. Wachowiak, M. Getzlaff, J. Klijn, L. Plucinks, R. L. Johnson, and R. Wiesendanger, Phys. Rev. B* **65** 155325 (2002)

**A low-temperature ultrahigh vacuum scanning force microscope with a split-coil magnet.**

*M. Liebmann, A. Schwarz, S. M. Langkat, and R. Wiesendanger, Rev. Sci. Instr.* **73** 3508 (2002)

**Dynamic force microscopy with atomic resolution at low temperatures.**

*A. Schwarz, U. D. Schwarz, S. Langkat, H. Hölscher, W. Allers, and R. Wiesendanger, Applied Surface Science* **188** 245 (2002)

**Magnetic properties of the Cr(001) surface studied by spin-polarized scanning tunneling spectroscopy.**

*M. Kleiber, M. Bode, R. Ravlic, N. Tezuka, and R. Wiesendanger, J. Magn. Magn. Mater.* **240** 64 (2002)

**Spin-Polarized Scanning Tunneling Microscopy with Antiferromagnetic Probe Tips.**

*A. Kubetzka, M. Bode, O. Pietzsch, and R. Wiesendanger, Phys. Rev. Lett.* **88** 057201 (2002)

**Subsurface interstitials as promoters of three-dimensional growth on Ti on Si(111): An X-ray standing wave, X-ray photoelectron spectroscopy, and atomic force microscopy investigation.**

*G. Kuri, Th. Schmidt, V. Hagen, G. Materlik, R. Wiesendanger, and J. Falta, J. Vac. Sci. & Tech. A* **20** 1997 (2002)

**The influence of potential fluctuations on Landau quantization and spin splitting studied by Low Temperature Scanning Tunneling Spectroscopy on InAs(110).**

*M. Morgenstern, V. Gudmundsson, Chr. Wittneven, R. Dombrowski, and R. Wiesendanger, J. Vac. Sci. & Tech. A* **20** 2032 (2002)

**Direct Observation of Internal Spin-Structure of Magnetic Vortex Cores.**

*A. Wachowiak, J. Wiebe, M. Bode, O. Pietzsch, M. Morgenstern, and R. Wiesendanger, Science* **298** 577 (2002)

**Comment on "Damping mechanism in dynamic force microscopy"**

*H. Hölscher, B. Gotsmann, W. Allers, U. D. Schwarz, H. Fuchs, and R. Wiesendanger, Phys. Rev. Lett.* **88** 019601 (2001)

**Experimental evidence for edge-like states in three-dimensional electron systems.**

*M. Morgenstern, D. Haude, Chr. Meyer, and R. Wiesendanger, Phys. Rev. B* **64** 205104 (2001)

**Atomic-scale magnetic domain walls in quasi-one-dimensional Fe nanostripes.**

*M. Pratzer, H. J. Elmers, M. Bode, O. Pietzsch, A. Kubetzka, and R. Wiesendanger, Phys. Rev. Lett. 87 127201 (2001)*

**Surface morphology of MgO(100) crystals implanted with MeV.**

*G. Kuri, G. Materlik, V. Hagen, and R. Wiesendanger, Appl. Phys. A 73 265 (2001)*

**Measurement of conservative and dissipative tip-sample interaction forces with a dynamic force microscope using the frequency modulation technique.**

*H. Hölscher, B. Gotsmann, W. Allers, U. D. Schwarz, H. Fuchs, and R. Wiesendanger, Phys. Rev. B 64 075402 (2001)*

**Preferential cluster nucleation on long-range superstructures on Al<sub>2</sub>O<sub>3</sub>/Ni<sub>3</sub>Al(111)**

*C. Becker, K. von Bergmann, A. Rosenhahn, J. Schneider, and K. Wandelt, Surface Science 486 L443 (2001)*

**Observation of Magnetic Hysteresis at the Nano-Scale by Spin Polarized Scanning Tunneling Spectroscopy.**

*O. Pietzsch, A. Kubetzka, M. Bode, and R. Wiesendanger, Science 292 2053 (2001)*

**Nonlocality of the exchange interaction probed by scanning tunneling spectroscopy.**

*M. Morgenstern, V. Gudmundsson, R. Dombrowski, Chr. Wittneven, and R. Wiesendanger, Phys. Rev. B 63 201301 (2001)*

**Nb-induced two-dimensional electron gas on n-InAs (100): Anomalous coverage dependence.**

*M. Getzlaff, M. Morgenstern, Chr. Meyer, R. Brochier, R.L. Johnson, and R. Wiesendanger, Phys. Rev. B 63 205305 (2001)*

**Magnetism of nanoscale Fe islands studied by spin-polarized scanning tunneling spectroscopy.**

*A. Kubetzka, O. Pietzsch, M. Bode, and R. Wiesendanger, Phys. Rev. B 63 140407 (2001)*

**Spin-polarized scanning tunneling spectroscopy on Fe-nanowires.**

*M. Bode, O. Pietzsch, A. Kubetzka, and R. Wiesendanger, Appl. Phys. A 72 149 (2001)*

**Physical Principles of Scanning Capacitance Microscopy.**

*J. Isenbart, A. Born, and R. Wiesendanger, Appl. Phys. A 72 243 (2001)*

**Low-temperature dynamic force microscopy on nickel oxide(001)**

*W. Allers, S. Langkat, and R. Wiesendanger, Appl. Phys. A 72 27 (2001)*

**Experimental Evidence for Intra-Atomic Non-Collinear Magnetism at Thin Film Probe Tips.**

*M. Bode, O. Pietzsch, A. Kubetzka, S. Heinze, and R. Wiesendanger, Phys. Rev. Lett. 86 2142 (2001)*

**Investigation of the swelling of human skin cells in liquid media by tapping mode scanning force microscopy.**

*T. Richter, J. Müller, U. D. Schwarz, R. Wepf, and R. Wiesendanger, Appl. Phys. A 72 125 (2001)*

**Simulation of Non-contact atomic force microscopy images of Xenon(111)**

*H. Hölscher, W. Allers, U. D. Schwarz, A. Schwarz, and R. Wiesendanger, Appl. Phys. A 72 S35 (2001)*

**Local Density of States of a Three-Dimensional Conductor in the Extreme Quantum Limit.**

*D. Haude, M. Morgenstern, I. Meinel, and R. Wiesendanger, Phys. Rev. Lett. 86 1582 (2001)*

**Erratum: Origin of Landau Oscillations observed in Scanning Tunneling Spectroscopy on n-InAs(110)**

*M. Morgenstern, D. Haude, V. Gudmundson, Chr. Wittneven, R. Dombrowski, and R. Wiesendanger, Phys. Rev. B 63 079901 (2001)*

**Spin-dependent tunneling effects on magnetic nanostructures**

*M. Getzlaff, M. Bode, A. Kubetzka, O. Pietzsch, and R. Wiesendanger, Chin. Phys. 10 S186 (2001)*

**Imaging Magnetic Nanostructures by Spin-Polarized Scanning Tunneling Spectroscopy**

*M. Bode, O. Pietzsch, A. Kubetzka, and R. Wiesendanger, J. Electr. Spectr. Relat. Phenom. 114 1055 (2001)*

**Topology-induced spin frustrations at the Cr(001) surface studied by spin-polarized scanning tunneling spectroscopy.**

*M. Kleiber, M. Bode, R. Ravlic, and R. Wiesendanger, Phys. Rev. Lett. 85 4606 (2000)*

**Coverage dependence of the Fe-induced Fermi level shift and the two dimensional electron gas on InAs(110)**

*M. Morgenstern, M. Getzlaff, D. Haude, R.L. Johnson, and R. Wiesendanger, Phys. Rev. B 61 13805 (2000)*

**Atomic resolution in scanning force microscopy: Concepts, requirements, contrast mechanisms, and image interpretation.**

*U.D. Schwarz, H. Hölscher, and R. Wiesendanger, Phys. Rev. B* **62** 13089 (2000)

**Detection of doping atom distributions and individual dopants in InAs(110) by dynamic mode scanning force microscopy in ultrahigh vacuum**

*A. Schwarz, W. Allers, U. D. Schwarz, and R. Wiesendanger, Phys. Rev. B* **62** 13617 (2000)

**Lattice relaxation of Gd on W(110)**

*S.A.Nepijko, M.Getzlaff, R.Pascal, Ch.Zarnitz, M.Bode and R.Wiesendanger, Surf. Sci.* **466** 89 (2000)

**Interpretation of 'true atomic resolution' images of graphite(0001) in non-contact atomic force microscopy.**

*H. Hölscher, W. Allers, A. Schwarz, U. Schwarz, and R. Wiesendanger, Phys. Rev. B* **62** 13617 (2000)

**Origin of Landau oscillations observed in scanning tunneling spectroscopy on n-InAs(110).**

*M. Morgenstern, D. Haude, V. Gudmundsson, Chr. Wittneven, R. Dombrowski, and R. Wiesendanger, Phys. Rev. B* **62** 7257 (2000)

**Chalcogen adsorption and surface magnetism.**

*M. Getzlaff, C. Westphal, J. Bansmann, and G. Schönhense, J. Electr. Spectr. Relat. Phen., J. Electr. Spectr. Relat. Phenom.* **107** 293 (2000)

**Spatial fluctuations of the density of states in magnetic fields observed with scanning tunneling spectroscopy.**

*M. Morgenstern, Chr. Wittneven, R. Dombrowski, and R. Wiesendanger, Phys. Rev. Lett.* **84** 5588 (2000)

**Real-Space Imaging of Two- Dimensional Antiferromagnetism on the Atomic Scale.**

*S. Heinze, M. Bode, A. Kubetzka, O. Pietzsch, X. Nie, S. Blügel, and R. Wiesendanger, Science* **288** 1805 (2000)

**Epitaxial cobalt films on W(110) an experimental and theoretical photoemission study with polarized synchrotron radiation.**

*J. Bansmann, L. Lu, M. Getzlaff, M. Fluchtmann, and J. Braun, Surf. Sci.* **454** 686 (2000)

**Real-Space Observation of Dipolar Antiferromagnetism in Magnetic Nanowires by Spin-Polarized Scanning Tunneling Spectroscopy.**

*O. Pietzsch, A. Kubetzka, M. Bode, and R. Wiesendanger, Phys. Rev. Lett.* **84** 5212 (2000)

**Scanning tunneling spectra of impurities in the Fe(001) surface.**

*N. Papanikolaou, B. Nonas, S. Heinze, R. Zeller, and P. H. Dederichs, Phys. Rev. B* **62** 11118 (2000)

**Quantitative Analysis of Dynamic-Force-Spectroscopy Data on Graphite (0001) in the Contact and Noncontact Regimes.**

*H. Hölscher, A. Schwarz, W. Allers, U. D. Schwarz, and R. Wiesendanger, Phys. Rev. B* **61** 12678 (2000)

**H-induced plastic deformation of Gd thin films studied by STM.**

*A. Pundt, M. Getzlaff, M. Bode, R. Kirchheim, and R. Wiesendanger, Phys. Rev. B* **61** 9964 (2000)

**A Low-Temperature UHV Scanning Tunneling Microscope with a Split-Coil Magnet and a Rotary Motion Stepper Motor for High Spatial Resolution Studies of Surface Magnetism.**

*O. Pietzsch, A. Kubetzka, D. Haude, M. Bode, and R. Wiesendanger, Rev. Sci. Instr.* **71** 424 (2000)

**Interpreting STM-Images of the MnCu/Cu(100) Surface Alloy.**

*D. Wortmann, S. Heinze, G. Bihlmayer, and S. Blügel, Phys. Rev. B* **62** 2862 (2000)

**Dynamic mode scanning force microscopy study of n-InAs(110)-(1x1) at low temperatures.**

*A. Schwarz, W. Allers, U.D. Schwarz, and R. Wiesendanger, Phys. Rev. B* **61** 2837 (2000)

**STM Study of Hydrogen on and in Gadolinium Films.**

*M. Getzlaff and R. Wiesendanger, European Microscopy and Analysis* **68** 7 (2000)

**Photoemission on two-dimensional electron systems.**

*M. Morgenstern, M. Getzlaff, J. Klijn, Ch. Meyer, A. Wachowiak, J. Wiebe, L. Plucinski, R.L. Johnson, R. Adelung, K. Roßnagel, and R. Wiesendanger, HASYLAB annual report 2000* 297 (2000)

**Low temperature scanning tunneling spectroscopy on InAs(110)**

*M. Morgenstern, D. Haude, V. Gudmundsson, Chr. Wittneven, R. Dombrowski, Chr. Steinebach, and R. Wiesendanger, J. Electr. Spectr. Relat. Phenom.* **109** 127 (2000)

**Penetration pathways of uorescent dyes in human hairfibres investigated by scanning near-field optical microscopy.**

*A. Kelch, S. Wessel, T. Will, U. Hintze, R. Wepf, and R. Wiesendanger, Journal Microsc. 200 179 (2000)*

**Dynamic scanning force microscopy at low temperatures**

*W. Allers, A. Schwarz, H. Hölscher, U. D. Schwarz, and R. Wiesendanger, Jpn. J. Appl. Phys. 39 3701 (2000)*

**Guidelines for two-dimensional dopant profiling using SCM**

*A. Born and R. Wiesendanger, Proc. ISTFA 2000, Bellevue/Washington 521 (2000)*

**Hydrogen induced plastic deformation of thin films.**

*A. Pundt, U. Laudahn, U. v. Hülsen, U. Geyer, T. Wagner, M. Getzlaff, M. Bode, R. Wiesendanger, and R. Kirchheim, Mat. Res. Soc. Symp. Proc. 594 75 (1999)*

**GdFe<sub>2</sub> alloy formation studied on the atomic scale by scanning tunneling microscopy**

*R. Pascal, M. Getzlaff, H. Tödter, M. Bode, and R. Wiesendanger, Phys. Rev. B 60 16109 (1999)*

**Recent advances in spin-polarized scanning tunneling spectroscopy for imaging of magnetic domains**

*R. Wiesendanger, M. Bode, and M. Getzlaff, J. Magn. Soc. Jpn. 23 195 (1999)*

**First-principles theory of ultra-thin magnetic films**

*T. Asada, G. Bihlmayer, S. Handschuh, S. Heinze, Ph. Kurz, and S. Blügel, J. Phys.: Condens. Matter 11 9347 (1999)*

**Determination of tip-sample interaction potentials by dynamic force spectroscopy**

*H. Hölscher, W. Allers, U. D. Schwarz, A. Schwarz, and R. Wiesendanger, Phys. Rev. Lett. 83 4780 (1999)*

**Structure and magnetism of self-organized Co islands**

*J. Bansmann, L. Lu, V. Senz, A. Bettac, M. Getzlaff, and K.H. Meiwes-Broer, Eur. Phys. J. D. 9 461 (1999)*

**Temperature-dependent exchange splitting of a surface state on a local-moment magnet: Tb(0001)**

*M. Bode, M. Getzlaff, A. Kubetzka, R. Pascal, O. Pietzsch, and R. Wiesendanger, Phys. Rev. Lett. 83 3017 (1999)*

**Dynamic scanning force microscopy at low temperatures on a noble gas crystal: Atomic resolution on the xenon(111) surface**

*W. Allers, A. Schwarz, U. D. Schwarz, and R. Wiesendanger, Europhys. Lett. 48 276 (1999)*

**Simultaneous observation of atomic step and domain wall structure of ultrathin Co films by magnetic force microscopy**

*M. Dreyer, M. Kleiber and R. Wiesendanger, Appl. Phys. A 69 359 (1999)*

**Growth of thin Mn-films on W(110) studied by means of in-situ scanning tunneling microscopy**

*M. Bode, M. Hennefarth, D. Haude, M. Getzlaff, and R. Wiesendanger, Surf. Sci. 432 8 (1999)*

**Vacuum-tunneling magnetoresistance: the role of spin-polarized surface states**

*R. Wiesendanger, M. Bode, and M. Getzlaff, Appl. Phys. Lett. 75 124 (1999)*

**Quantitative aspects of spin-polarized scanning tunneling spectroscopy of Gd(0001)**

*M. Bode, M. Getzlaff, and R. Wiesendanger, J. Vac. Sci. & Tech. A 17 2228 (1999)*

**Coadsorption of H and CO on Gd (0001)**

*M. Getzlaff, M. Bode, and R. Wiesendanger, Appl. Surf. Sci. 142 428 (1999)*

**GdFe<sub>2</sub> alloy formation observed by STM**

*M. Getzlaff, R. Pascal, H. Tödter, M. Bode, and R. Wiesendanger, Appl. Surf. Sci. 142 543 (1999)*

**New insight into the surface magnetic properties of Gd(0001)**

*M. Getzlaff, M. Bode, S. Heinze, and R. Wiesendanger, Appl. Surf. Sci. 142 558 (1999)*

**The adsorption process of hydrogen on Gd (0001)**

*M. Getzlaff, M. Bode, R. Pascal, and R. Wiesendanger, Appl. Surf. Sci. 142 63 (1999)*

**Tip-induced band bending by scanning tunneling spectroscopy of the states of the tip-induced quantum dot on InAs(110)**

*R. Dombrowski, Chr. Steinebach, Chr. Witteven, M. Morgenstern, and R. Wiesendanger, Phys. Rev. B 59 8043 (1999)*

**Adsorbates on Gd (0001): A combined scanning tunneling microscopy and photoemission study**

*M. Getzlaff, M. Bode, R. Pascal, and R. Wiesendanger, Phys. Rev. B* **59** 8195 (1999)

**STM-Images of transition-metal structures buried below noble-metal surfaces**

*S. Heinze, R. Abt, S. Blügel, G. Gilarowski, and H. Niehus, Phys. Rev. Lett.* **83** 4808 (1999)

**Dynamic scanning force microscopy at low temperatures on a van der Waals surface: graphite(0001)**

*W. Allers, A. Schwarz, U. D. Schwarz, and R. Wiesendanger, Appl. Surf. Sci.* **140** 247 (1999)

**Simultaneous imaging of the In and As sublattice on InAs(110)-(1x1) with dynamic scanning force microscopy**

*A. Schwarz, W. Allers, U. D. Schwarz, and R. Wiesendanger, Appl. Surf. Sci.* **140** 293 (1999)

**Calculation of the frequency shift in dynamic scanning force microscopy**

*H. Hölscher, U. D. Schwarz, and R. Wiesendanger, Appl. Surf. Sci.* **140** 344 (1999)

**Oxygen on Fe(110): Magnetic properties of the adsorbate system**

*M. Getzlaff, J. Bansmann, and G. Schönhense, J. Magn. Magn. Mater.* **192** 458 (1999)

**Composition driven change of magnetic anisotropy of ultrathin Co/Au (111) films studied by magnetic force microscopy under ultrahigh vacuum**

*M. Dreyer, M. Kleiber, A. Wadas, and R. Wiesendanger, Phys. Rev. B* **59** 4273 (1999)

**Imaging of sub-unit-cell structures in the contact mode of the scanning force microscope**

*H. Hölscher, W. Raberg, U. D. Schwarz, A. Hasbach, K. Wandelt, and R. Wiesendanger, Phys. Rev. B* **59** 1661 (1999)

**Electric-field induced changes in STM images of metal surfaces**

*S. Heinze, X. Nie, S. Blügel, and M. Weinert, Chem. Phys. Lett.* **315** 167 (1999)

**Dispersion behavior of a two-dimensional electron gas**

*M. Getzlaff, M. Morgenstern, R.L. Johnson, and R. Wiesendanger, HASYLAB annual report* **1999** 251 (1999)

**Size dependence of magnetic characteristics measured on separate nickel particles**

*S. A. Nepijko and R. Wiesendanger, Semiconductor Physics (Quantum Electronics and Optoelectronics)* **2** 5 (1999)

**Spin polarized vacuum tunneling: correlation of electronic and magnetic properties on the nanometer scale**

*M. Getzlaff, M. Bode, and R. Wiesendanger, Surf. Rev. Lett.* **6** 591 (1999)

**Preparation of highly ordered GdFe<sub>2</sub> alloys**

*M. Getzlaff, R. Pascal, H. Tödter, M. Bode, and R. Wiesendanger, Surf. Rev. Lett.* **6** 741 (1999)

**Scattering States of Ionized Dopants probed by Low Temperature Scanning Tunneling Spectroscopy.**

*Ch. Wittneven, R. Dombrowski, M. Morgenstern, and R. Wiesendanger, Phys. Rev. Lett.* **81** 5616 (1998)

**Prediction of bias-voltage dependent corrugation reversal for STM images of bcc-(110)-surfaces: W(110), Ta(110) and Fe(110)**

*S. Heinze, S. Blügel, R. Pascal, M. Bode, and R. Wiesendanger, Phys. Rev. B* **58** 16432 (1998)

**Spin-Polarized Vacuum Tunneling into the Exchange-split Surface State of Gd(0001)**

*M. Bode, M. Getzlaff, and R. Wiesendanger, Phys. Rev. Lett.* **81** 4256 (1998)

**Determination of radial matrix elements and phase shifts in the photoemission process using a rotatable electric field vector**

*M. Getzlaff, M. Bode, and R. Wiesendanger, Phys. Rev. B* **58** 9681 (1998)

**Magnetization switching of submicrometer Co dots induced by a magnetic force microscope tip**

*M. Kleiber, F. Kümmerlen, M. Löhndorf, A. Wadas, D. Weiss, R. Wiesendanger, Phys. Rev. B* **58** 5563 (1998)

**Local magnetization switching of submicrometer Co dots induced by a magnetic force microscope tip**

*M. Kleiber, F. Kümmerlen, M. Löhndorf, A. Wadas, D. Weiss, and R. Wiesendanger, Phys. Rev. B* **58** 5563 (1998)

**Hydrogen adsorption on Gd(0001)**

*M. Getzlaff, M. Bode, and R. Wiesendanger, Surf. Sci.* **410** 189 (1998)

**Investigation of micromagnetism and magnetization reversal of Ni nanoparticles using a magnetic force microscope**

*A.A. Bukharaev, D.V. Ovchinnikov, N.I. Nurgazizov, E.F. Kukovitskii, M. Kleiber, and R. Wiesendanger, Physics of the Solid State* **40** 1163 (1998)

**Local electronic properties in the presence of internal and external magnetic fields studied by variable-temperature scanning tunneling spectroscopy**

*R. Wiesendanger, M. Bode, R. Dombrowski, M. Getzlaff, M. Morgenstern, and C. Wittneven, Jpn. J. Appl. Phys.* **37** 3769 (1998)

**Vertical polarization of quantum magnets in high density arrays of nickel dots with small height-to-diameter ratio**

*G. Meier, M. Kleiber, D. Grundler, D. Heitmann and R. Wiesendanger, Appl. Phys. Lett.* **72** 2168 (1998)

**Temperature-dependent exchange-splitting of the magnetic Gd(0001) surface state**

*M. Getzlaff, M. Bode, S. Heinze, R. Pascal, and R. Wiesendanger, J. Magn. Magn. Mater.* **184** 155 (1998)

**Analysis of electrical breakdown failures by means of SFM-based methods**

*A. Born, A. Olbrich, M. Maywald, and R. Wiesendanger, Appl. Phys. A* **66** 1063 (1998)

**Electronic structure of Gd and Tb on W(110) in the submonolayer coverage regime studied by STM and STS**

*R. Pascal, Ch. Zarnitz, H. Tödter, M. Bode, M. Getzlaff, and R. Wiesendanger, Appl. Phys. A* **66** 1121 (1998)

**Ultrahigh vacuum magnetic force microscopy of the domain structure of ultrathin Co films**

*M. Dreyer, M. Löhndorf, A. Wadas, and R. Wiesendanger, Appl. Phys. A* **66** 1209 (1998)

**Magnetic exchange splitting of the Gd(0001) surface state studied by variable-temperature scanning tunneling spectroscopy**

*M. Bode, M. Getzlaff, S. Heinze, R. Pascal, and R. Wiesendanger, Appl. Phys. A* **66** 121 (1998)

**Scanning Tunneling Spectroscopy on n-InAs(110): Landau Level Quantization and Scattering of Electron Waves at Dopant Atoms**

*R. Dombrowski, Ch. Wittneven, M. Morgenstern, and R. Wiesendanger, Appl. Phys. A* **66** 203 (1998)

**The velocity dependence of frictional forces in point contact friction**

*O. Zwörner, H. Hölscher, U.D. Schwarz, and R. Wiesendanger, Appl. Phys. A* **66** 263 (1998)

**Scanning capacitance microscope as a tool for the characterization of integrated circuits**

*A. Born and R. Wiesendanger, Appl. Phys. A* **66** 421 (1998)

**Thickness-dependent magnetic domain structures of ultrathin Co/Au(111) films studied by means of magnetic force microscopy in ultrahigh vacuum**

*A. Wadas, M. Dreyer, M. Kleiber, and R. Wiesendanger, Appl. Phys. A* **66** 465 (1998)

**Consequences of the stick-slip movement for the scanning force microscopy imaging of graphite**

*H. Hölscher, O. Zwörner, U.D. Schwarz, and R. Wiesendanger, Phys. Rev. B* **57** 2477 (1998)

**Origin of the ferroelectric domain contrast observed in lateral force microscopy**

*H. Bluhm, U.D. Schwarz, and R. Wiesendanger, Phys. Rev. B* **57** 161 (1998)

**A scanning force microscope with atomic resolution in ultrahigh vacuum and at low temperatures**

*W. Allers, A. Schwarz, U. D. Schwarz, and R. Wiesendanger, Rev. Sci. Instr.* **69** 221 (1998)

**Surface state of Gd(0001) films on W(110): Scanning tunneling spectroscopy study**

*M. Bode, R. Pascal, M. Getzlaff, and R. Wiesendanger, Acta Phys. Pol* **93** 273 (1998)

**Recent advances in spin-polarized scanning tunneling spectroscopy for imaging of magnetic domains**

*R. Wiesendanger, M. Bode, and M. Getzlaff, J. Magn. Soc. Jpn.* (1998)

**Reibung auf der Nanometerskala - Nanotribologie mit dem Rasterkraftmikroskop**

*U. D. Schwarz and H. Hölscher, Phys. Bl.* **54** 1127 (1998)

**Neue Perspektiven**

*R. Wiesendanger, Phys. Bl.* **54** 417 (1998)

**Tiefemperatur-Rastertunnelspektroskopie an InAs(110): Streuung von Elektronenwellen an Dotieratomen und Spektroskopie an Landauniveaus**

*M. Morgenstern, R. Dombrowski, Ch. Wittneven, and R. Wiesendanger, Phys. Bl.* **54** 423 (1998)

**Landau Level Quantization measured by Scanning Tunneling Spectroscopy on n-InAs(110)**

*M. Morgenstern, R. Dombrowski, Ch. Wittneven, and R. Wiesendanger, Phys. Stat. Sol. 210 845 (1998)*

**Micromagnetic properties and magnetization reversal of Ni nanoparticles studied by magnetic force microscopy**

*A.A. Bukharaev, D.V. Ovchinnikov, N.I. Nurgazizov, E.F. Kukovitskii, M. Kleiber, and R. Wiesendanger, Proc. 6th Int. Symp. Nanostructures: Physics and Technology, St. Petersburg, Russia 428 (1998)*

**Recent developments in scanning probe microscopy and spectroscopy for imaging of magnetic domains**

*M. Getzlaff, M. Bode, A. Wadas, and R. Wiesendanger, Proc. ICEM-14, Cancun (Mexico), Electron Microscopy (1998)*

**Adsorption of hydrogen on structured gadolinium**

*M. Getzlaff, M. Bode, R. Pascal, and R. Wiesendanger, Proc. ICEM14, Cancun (Mexico), Electron Microscopy 3 171 (1998)*

**Visualization of heterogeneously catalytic processes**

*M. Getzlaff, M. Bode, and R. Wiesendanger, Proc. ICEM14, Cancun (Mexico), Electron Microscopy 3 173 (1998)*

**Magnetic force microscopy of Ni nanoparticles formed by coalescence method**

*A.A. Bukharaev, D.V. Ovchinnikov, N.I. Nurgazizov, E.F. Kukovitskii, M. Kleiber, and R. Wiesendanger, Scanning 20 3 (1998)*

**Surface electronic structure of Gd(0001) films on W(110)**

*R. Pascal, C. Zarnitz, M. Bode, M. Getzlaff, and R. Wiesendanger, Appl. Phys. A 65 603 (1997)*

**Studies of Magnetic Properties of Small Particles by Electron Holography**

*S.A. Nepijko and R. Wiesendanger, Appl. Phys. A 65 361 (1997)*

**Investigation of cross-tie walls and ripple structures of thin polycrystalline Co films by magnetic force microscopy**

*M. Löhndorf, A. Wadas, and R. Wiesendanger, Appl. Phys. A 65 511 (1997)*

**A low-temperature ultrahigh-vacuum STM/STS-system with rotatable magnetic field**

*Ch. Wittneven, R. Dombrowski, S.H. Pan, and R. Wiesendanger, Rev. Sci. Instr. 68 3806 (1997)*

**Quantitative analysis of the frictional properties of carbon compounds at low loads using friction force spectroscopy**

*U.D. Schwarz, O. Zwörner, P. Köster, and R. Wiesendanger, Phys. Rev. B 56 6987 (1997)*

**The frictional properties of mica and germanium sulfide investigated by means of friction force spectroscopy**

*U.D. Schwarz, O. Zwörner, P. Köster, and R. Wiesendanger, Phys. Rev. B 56 6997 (1997)*

**Stick-slip movement of a scanned tip on a graphite surface in scanning force microscopy**

*H. Hölscher, U.D. Schwarz, O. Zwörner, and R. Wiesendanger, Z. Phys. B. 104 295 (1997)*

**Atomic and local electronic structure of Gd thin films studied by STM and STS**

*R. Pascal, Ch. Zarnitz, M. Bode, and R. Wiesendanger, Phys. Rev. B 56 3636 (1997)*

**STM-study of the growth of Gd/W(110) at submonolayer coverages**

*R. Pascal, C. Zarnitz, M. Bode, and R. Wiesendanger, Surf. Sci. 385 L990 (1997)*

**Imaging of domain-inverted gratings in LiNbO<sub>3</sub> by Electrostatic force microscopy.**

*H. Bluhm, A. Wadas, R. Wiesendanger, A. Roshko, J.A. Aust, and D. Nam, Appl. Phys. Lett. 71 146 (1997)*

**Fabrication of atomic gratings based on self-organization of adsorbates with repulsive interaction**

*R. Pascal, Ch. Zarnitz, M. Bode, and R. Wiesendanger, Appl. Phys. A 65 81 (1997)*

**Magnetic nanostructures studied by scanning probe microscopy and spectroscopy**

*R. Wiesendanger, M. Bode, M. Kleiber, M. Löhndorf, R. Pascal, A. Wadas, and D. Weiss, J. Vac. Sci. & Tech. B 15 1330 (1997)*

**Preparation of probe tips with well-defined spherical apices for scanning force spectroscopy**

*U.D. Schwarz, O. Zwörner, P. Köster, and R. Wiesendanger, J. Vac. Sci. & Tech. B 15 1527 (1997)*

**Scanning-probe-based science and technology**

*R. Wiesendanger, Proc. Natl. Acad. Sci. USA 94 12749 (1997)*

**Scanning tunneling spectroscopy of Fe/W(110) using iron covered probe tips**

*M. Bode, R. Pascal, and R. Wiesendanger, J. Vac. Sci. & Tech. A* **15** 1285 (1997)

**Magnetostatic interaction studied by force microscopy in ultrahigh vacuum**

*A. Wadas, M. Dreyer, M. Löhdorf, and R. Wiesendanger, Appl. Phys. A* **64** 353 (1997)

**Modelling of the scan process in lateral force microscopy**

*H. Hölscher, U.D. Schwarz, and R. Wiesendanger, Surf. Sci.* **375** 395 (1997)

**An UHV-STM for in-situ studies of thin film growth.**

*Ch. Witt, U. Mick, M. Bode, and R. Wiesendanger, Rev. Sci. Instr.* **68** 1455 (1997)

**Electrostatic force microscopy on ferroelectric crystals in inert gas atmosphere**

*H. Bluhm, A. Wadas, R. Wiesendanger, K.-P. Meyer, and L. Szczesniak, Phys. Rev. B* **55** 4 (1997)

**The topographical structure of the domain boundary on the triglycine sulfate (010) surface**

*H. Bluhm, R. Wiesendanger and K.-P. Meyer, Ferroelectrics* **200** 327 (1997)

**Novel writing using magnetic force microscopy in ultrahigh vacuum**

*A. Wadas, M. Dreyer, M. Löhdorf, and R. Wiesendanger, IEEE Trans. Magn.* **33** 4050 (1997)

**Scanning Probe Microscopy and Spectroscopy: From Basic Research to Industrial Applications**

*A. Born and R. Wiesendanger, Informacije MIDEM* **27 (4)** 246 (1997)

**Correlation between nano-scale structural, electronic and magnetic properties of thin films by scanning probe microscopy and spectroscopy**

*R. Wiesendanger, MRS Bulletin* **22** 31 (1997)

**Tip-sample interaction in contact force microscopy**

*U.D. Schwarz, H. Hölscher, H. Bluhm, O. Zwörner, and R. Wiesendanger, PTB-Bericht F* **30** 1 (1997)

**Nanomechanical investigations and modifications of thin films based on scanning force methods**

*W. Allers, C. Hahn, M. Löhdorf, S. Lukas, S. Pan, U.D. Schwarz, and R. Wiesendanger, Nanotechnology* **7** 346 (1996)

**Application of Scanning Probe Methods for Electronic and Magnetic Device Fabrication, Characterization and Testing.**

*A. Born, C. Hahn, M. Löhdorf, A. Wadas, Ch. Witt, and R. Wiesendanger, J. Vac. Sci. & Tech. B* **14** 3625 (1996)

**Fabrication of Nano-Dot- and Nano-Ring-Arrays by Nanosphere Lithography**

*M. Winzer, N. Dix, M. Kleiber, and R. Wiesendanger, Appl. Phys. A* **63** 617 (1996)

**Simulation of a scanned tip on a NaF(001) surface in friction force microscopy**

*H. Hölscher, U.D. Schwarz, and R. Wiesendanger, Europhys. Lett.* **36** 16 (1996)

**Nanostructural and local electronic properties of Fe/W(110) correlated by scanning tunneling spectroscopy**

*M. Bode, R. Pascal, and R. Wiesendanger, Phys. Rev. B* **54** 8385 (1996)

**Quantitative analysis of lateral force microscopy experiments**

*U.D. Schwarz, P. Köster, and R. Wiesendanger, Rev. Sci. Instr.* **67** 2560 (1996)

**Fabrication of atomic wires by self-organization**

*Ch. Witt, M. Bode, and R. Wiesendanger, Appl. Phys. A* **63** 303 (1996)

**Load-dependent topographic and friction studies of individual ion tracks in layered materials by scanning and lateral force microscopy**

*M. Seider, U.D. Schwarz, and R. Wiesendanger, Phys. Rev. B* **53** 16180 (1996)

**Issues of atomic-resolution structure and chemical analysis by scanning probe microscopy and spectroscopy**

*M. Bode, R. Pascal, W. Allers, U.D. Schwarz and R. Wiesendanger, J. Vac. Sci. & Tech. A* **14** 1161 (1996)

**Structure of cross-tie wall in thin Co films resolved by magnetic force microscopy**

*M. Löhdorf, A. Wadas, H.A.M. van den Berg, and R. Wiesendanger, Appl. Phys. Lett.* **68** 3635 (1996)

**Chemical-specific imaging of multicomponent metal surfaces on the nanometer scale by scanning tunneling spectroscopy**

*M. Bode, R. Pascal, and R. Wiesendanger, Appl. Phys. A 62 571 (1996)*

**Surface structure of ferroelectric domains on the triglycine sulfate (010) surface**

*H. Bluhm, R. Wiesendanger, and K.-P. Meyer, J. Vac. Sci. & Tech. B 14 1180 (1996)*

**Domain Structure of Co/Pt Multilayers studied by Magnetic Force Microscopy**

*M. Löhndorf, A. Wadas, R. Wiesendanger, and H.W. van Kesteren, J. Vac. Sci. & Tech. B 14 1214 (1996)*

**Correlation between nano-scale structural, electronic and magnetic properties of thin films by scanning probe microscopy and spectroscopy**

*R. Wiesendanger, MRS Bulletin 22 31 (1996)*

**Tunnelspektroskopie vom Einzelatom zum Festkörper**

*M. Bode, R. Pascal, and R. Wiesendanger, Phys. Bl. 52 551 (1996)*

**Local and Scanning Tunneling Spectroscopy of 0D - 3D Metallic Nanostructures**

*M. Bode, R. Pascal, and R. Wiesendanger, Proc. 1st Int. Symp. Advanced Physical Fields, ed. K. Yoshihara, National Research Inst. for Metals 1 (1996)*

**Micromagnetic properties and magnetization switching of single domain Co dots studied by magnetic force microscopy**

*M. Löhndorf, A. Wadas, G. Lütjering, D. Weiss, and R. Wiesendanger, Z. Phys. B. 101 1 (1996)*

**Distance-dependent STM study of the lateral resolution on metal surfaces**

*M. Bode, R. Pascal, and R. Wiesendanger, Z. Phys. B. 101 103 (1996)*

**Imaging and tunneling spectroscopy of individual iron adsorbates at room temperature**

*M. Bode, R. Pascal, and R. Wiesendanger, Z. Phys. B. 99 143 (1996)*