

Scanning Probe Methods Group, Prof. Dr. Roland Wiesendanger

Publications: Original Articles

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Subgroup: STM/STS on Semiconductors

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)**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)**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. Újfalussy, J. Wiebe, and R. Wiesendanger*, *Communications Physics* **6** 83 (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)**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)**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)**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)**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)**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)**Stabilizing spin systems via symmetrically tailored RKKY interactions***J. Hermenau, S. Brinker, M. Marciari, M. Steinbrecher, M. dos Santos Dias, R. Wiesendanger, S. Lounis, and J. Wiebe*, *Nature Communications* **10** 2565 (2019)**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)**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_{1-x}Te***J. Warmuth, M. Bremholm, P. Hofmann, J. Wiebe, and R. Wiesendanger*, *npj Quantum Materials* **3** 21 (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)

Electronic structure of Fe_{1.08}Te bulk crystals and epitaxial FeTe thin films on Bi₂Te₃

F. Arnold, J. Warmuth, M. Michiardi, J. Fikáček, M. Bianchi, J. Hu, Z. Mao, J. Miwa, U. R. Singh, M. Bremholm, R. Wiesendanger, J. Honolka, T. Wehling, J. Wiebe, and P. Hofmann, *J. Phys.: Condens. Matter* **30** (2018)

A gateway towards non-collinear spin processing using three-atom magnets with strong substrate coupling

J. Hermenau, J. Ibañez-Azpiroz, Chr. Hübner, A. Sonntag, B. Baxevanis, K. T. Ton, M. Steinbrecher, A. A. Khajetoorians, M. dos Santos Dias, S. Blügel, R. Wiesendanger, S. Lounis, and J. Wiebe, *Nature Communications* **8** 642 (2017)

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. Kamlapure, 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)

Topological insulator homojunctions including magnetic layers: The example of n-type (n-QLs Bi₂Se₃/Mn-Bi₂Se₃) 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)

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)

Tailoring the chiral magnetic interaction between two individual atoms

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

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)

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)

Response of the topological surface state to surface disorder in TlBiSe₂

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)

Intra- and interband electron scattering in a hybrid topological insulator: Bismuth bilayer on Bi₂Se₃

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

Hitting the limit of magnetic anisotropy

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

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)

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)

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)

Robust Surface Doping of Bi₂Se₃ 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)

In-plane magnetic anisotropy of Fe atoms on Bi₂Se₃(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)

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)

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

S. V. Ereameev, 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)

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)

Logik aus atomaren Spins

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

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)

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)

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)

Inversion of spin polarization above individual magnetic adatoms

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

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)

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)

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)

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)

Revealing Magnetic Interactions from Single-Atom Magnetization Curves

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

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)

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)

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)

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)

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)

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)

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)

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)

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)

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

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

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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

Local Density of States of a Three-Dimensional Conductor in the Extreme Quantum Limit.

D. Haude, M. Morgenstern, J. 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)

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)

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)

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)

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)

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. Wittneven, M. Morgenstern, and R. Wiesendanger, Phys. Rev. B **59** 8043 (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)

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)

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)

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)

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)

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)