PhD Theses at IFF

2024

Felix Anger
Festkörpereinkristallzüchtung von LaOFeAs und dessen Substitutionsvarianten

Andrii Kuibarov
Finding routes to topological superconductivity with $PtBi_2$

Bastian Rubrecht
Thermodynamic investigation of emergent magnets with aspects of magnetic frustration and/or topology

Mohamed Abdullah Abdullah Mohamed
Exploring Novel Approaches for Enhancing the Electrochemical Performance of Li-rich Antiperovskite Cathodes for Li-ion batteries

Louis Philip Doctor
Spectroscopic Investigations of Excitons in Metal-Phthalocyanine Thin Films

2023

Samuel Froeschke
Synthesis, nanocrystal deposition and characterization of 2D transition metal trihalide solid solutions

Wei Yang
Synthesis, isolation and characterization of lanthanide based fullerenes and their derivatives

Tom Klaproth
Spectroscopic investigations of two-dimensional magnetic materials: transition metal trichlorides and transition metal phosphorus trichalcogenides

Matthias Gillig
Thermische Transportuntersuchungen an niederdimensionalen und frustrierten Quantenmagneten

Lukas Graf
Optical anisotropy and exciton dispersion in organic single crystals covering different exciton coupling mechanisms

2022

Teresa Tschirner
Transport phenomena in antiferromagnetic thin films

Johannes Schlultz
Towards Plasmon-Band Engineering in Ordered Plasmonic Nanostructures

Robert Kuhrt

Charge Transfer in Organic Semiconductor Systems Probed by Photoemission Spectroscopy

Yaofeng Wang
Synthesis and isolation of metallofullerene-based single-molecule magnets

Felix Lucas Kern
Miniaturized Electron Optics based on Self-Assembled Micro Coils

Arthur Veyrat
Superconductivity and topology in trigonal-PtBi2

Christoph Wellm
New Phenomena in Magnetically Frustrated Electron Systems Probed by Electron Spin Resonance Spectroscopy

2021

Francesco Scaravaggi
Electronic correlations and nematicity in 122 and 1111 Fe-based superconductors

Vasilii Dubrovin
Effects of non-covalent interactions on electronic structure and anisotropy in Ln-based SMMs: theoretical studies

Georgios Velkos
Magnetic studies on lanthanide-based endohedral metallofullerenes

Piotr Lepucki
Development of self-assembled, rolled-up microcoils for nuclear magnetic resonance spectroscopy

Aoyu Tan
Magneto-transport Properties of Antiferromagnetic Topological Insulators $MnBi_2Te_4$ and $MnBi_4Te_7$

Valentin Labracherie
Electrical transport in nanostructures of the Weyl semimetal WTe_2

Sebastian Schimmel
Aufbau und Performance eines 30mK-Rastertunnelmikroskops und Untersuchungen zum Einzelmolekülmagnet $Dy_2ScN@C_{80}$ auf Substratoberflächen

Sebastian Selter
Crystal Growth, Structure and Anisotropic Magnetic Properties of Quasi-2D Materials

Gizem Aslan-Cansever
Effect of Impurities, Off-Stoichiometry and Site-Disorder on Structural and Magnetic Properties of Transition Metal Oxides Induced by Different Synthesis Conditions

2020

Christoph Wuttke
Thermoelektrische Transportuntersuchungen an topologischen und korrelierten Elektronensystemen

Jose Maria Guevara Parra
Spectroscopic imaging of novel correlated electronic phases

Martin Grönke (BTU Cottbus-Senftenberg)
Synthesis and characterization of layered transition metal trihalides MCl_3 (M = Ru, Mo, Ti, Cr) and CrX_3 (X = Cl, Br, I).

Carsten Habenicht
Spectroscopic investigation of excitons and doping-induced semiconductor-to-metal transitions in transition metal dichalcogenides

Lukas Spree (TU Freiberg)
Synthesis, Isolation, Characterization, and Surface Deposition of Endohedral Fullerenes with Single-Electron Lanthanide-Lanthanide Bonds

Michael Vogl
Magnetic exchange interactions in Ir^{4+}-based double perovskites

Julian Zeisner
ESR-Spektroskopie an niedrigdimensionalen und magnetisch frustrierten Elektronensystemen

2019

Yevhen Kushnirenko
Details of 3D electronic structure of some Fe-based superconductors and their superconducting order parameters

Margarita Iakovleva
Magnetic Resonance Spectroscopy on Low-dimensional and Frustrated Magnets

Florian Kiebert
Flüssigkeits- und Partikelmanipulation in mikrofluidischen Oberflächenwellen-Systemen

Eric Haubold
Electronic structure of topological semimetals

Victoria Eckert
Wachstumsmechanismen und Oberflächeneigenschaften undotierter und N-dotierter Kohlenstoffnanoröhren

Rasha Ghunaim
Development of Intermetallic Filled Carbon Nanotube Sensors for Hyperthermia Applications

Maik Scholz
Chemische und thermische Modifizierung von Garnen aus Kohlenstoffnanoröhren

2018

Christin Schlesier
Synthese und magnetische Eigenschaften von Dysprosium-Nitrid-Clusterfullerenen

Ariane Brandenburg
Synthese und Derivatisierung endohedraler Clusterfullerene

Denis Krylov
Magnetic studies of endohedral fullerenes

Eric Müller
Electron energy-loss spectroscopy on transition-metal dichalcogenides and alpha-$RuCl_3$

Rhea Kappenberger
Das System LaFeAsO in Poly- und Einkristallen

Robert Fuge
Strukturelle und mechanische Eigenschaften von Kohlenstoffnanoröhren

2017

Stephan Fuchs
Elektronenspinresonanz an Iridaten in Doppelperowskitstrukturen

Pranab Kumar Nag
Unusual electronic properties in LiFeAs probed by low temperature scanning tunneling microscopy and spectroscopy

Uwe Gräfe
Investigation of the Superconducting and Magnetic Phase Diagram of Off-Stoichiometric LiFeAs

Florian Rückerl
Photoemission Spectroscopy at Organic Semiconductor Systems

Nataliya Samoylova
Cluster-based redox activity in Endohedral Metallofullerenes: Electrochemical and EPR studies

Katrin Junghans
Clusterfullerensynthese mit Methan

Marcel Haft
Synthese intermetallischer Nanostrukturen in Kohlenstoffnanoröhren

Yannic Utz
The Effect of In-Chain Impurities on 1D Antiferromagnets - An NMR Study on Doped Cuprate Spin Chains

2016

Christian Nowka
Untersuchungen zu Gasphasentransporten in quasibinären Systemen von Bi_2Se_3 mit Bi_2Te_3, Sb_2Se_3, MnSe und FeSe zur Erzeugung von Nanokristallen

Stephan Zimmermann
Elektronenspinresonanz an niederdimensionalen und frustrierten magnetischen Systemen

Frederik Klein
Graphitisierung von tetraedischem amorphem Kohlenstoff mittels Elektronen im Rastertunnel und Rasterelektronenmikroskop

Christian David Salazar Enriques
Scanning tunneling microscopy on low dimensional systems: dinickel molecular complexes and iron nanostructures

Nadine Heming
Untersuchung der Volumen- und Oberflächeneigenschaften von Hexaboriden

Julia Körner
Gekoppelte Oszillatoren als neuartige Sensoren für Cantilever-Magnetometrien

Louis Veyrat
Quantum Transport Study of Spin-Helical Dirac Fermions in 3D Topological Insulator Nanostructures

Christopher Reiche
Novel sensors for scanning force microscopy based on carbon nanotube mechanical resonators

Alexander Fedorov
Electronic structure of doped 2D materials

Markus Gellesch
Statistical study of the effect of annealing treatments on assemblies of intermetallic magnetic nanoparticles related to the Heusler compound Co_2FeGa

Ahmad Omar
Disentangling the Intrinsic Attributes and the Physical Properties in Cobalt-based Quaternary Heusler Compounds

Wolf Schottenhamel
Aufbau eines hochauflösenden Dilatometers und einer hydrostatischen SQUID-Druckzelle sowie Untersuchungen an korrelierten Übergangsmetalloxiden

Steven Rodan
Nuclear magnetic resonance and specific heat studies of half-metallic ferromagnetic Heusler compounds

Azar Aliabadi
ESR and Magnetization Studies of Transition Metal Molecular Compounds

2015

Frank Steckel
Thermische und elektrische Transportuntersuchungen an niederdimensionalen korrelierten Elektronensystemen

Janek Maletz
Low-energy electronic structure of iron chalcogenide superconductors

Tobias Ritschel
Electronic self-organization in layered transition metal dichalcogenides

Martha Scheffler
Microscopic tunneling experiments on atomic impurities in graphene and on magnetic thin films

Rafael Gregorio Mendes
Synthesis, characterization and toxicological evaluation of carbon-based nanostructures

Uwe Treske
Valence changes at interfaces and surfaces investigated by X-ray spectroscopy

Sami Makharza
Graphene Oxide Nanohybrids as Platforms for Carboplatin Loading and Delivery

Benjamin Mahns
Elektronische Eigenschaften dotierter polyzyklischer aromatischer Kohlenwasserstoffe

2014

Dirk Bombor
Transportmessungen an supraleitenden Eisenpniktiden und Heusler-Verbindungen

Maria Dimitrakopoulou
Investigations of Si-based and Heusler nanostructures

Abdelwahab Hassan
Electrical properties of different kinds of multi-walled carbon nanotubes, carbon nanofibers and nanocomposites materials

Susi Lindner
Charge transfer at phtalocyanine interfaces

Ashwin Mohan
Low-Dimensional Quantum Magnets: Single Crystal Growth and Heat Transport Studies

Sven Partzsch
Magnetoelectric Coupling Mechanisms in $YMn_{2-x}FeO_5$ and $NdFe_3(BO_3)_4$ Revealed by Resonant X-ray

Markus Schäpers
Exploring the Frustrated Spin-Chain Compound Linarite by NMR and Thermodynamic Investigations

Ronny Schlegel
Untersuchung der elektronischen Oberflächeneigenschaften des stöchiometrischen Supraleiters LiFeAs mittels Rastertunnelmikroskopie und -spetroskopie

Jan Trinckauf
An ARPES study of correlated electron materials on the verge of cooperative order

Raghunandan Ummethala
Growth and field emission characteristics of MWCNT´s on different substrates

2013

Andreas König
Charge-Density Waves and Collective Dynamics in the Transition-Metal Dichalcogenides: An Electron Energy-Loss Study

Oleg Mityashin
Magnetic heat transport in low-dimensional quantum spin systems

Giacomo Prando
Phase Diagrams of $REFeAsO_{1-x}F_x$ Materials

Christian Rudisch
Nuclear Magnetic Resonance on Selected Lithium Based Compounds

Anna Svitova
Mixed-Metal Clusterfullerenes: New Structures and New Challenges

Uhland Weißker
Synthesis and mechanical properties of iron-filled carbon nanotubes

Yang Zhang
Metal Nitride Cluster as a Template to Tune the Electronic and Magnetic Properties of Rare-Earth Metal Containing Endohedral Fullerenes