

Publikationen Prof. Dr. Christian Hemker-Heß

Journal Publications

2024

- Bulk and surface electron scattering in disordered Bi_2Te_3 probed by quasiparticle interference, V. Nagorkin, S. Schimmel, P. Gebauer, A. Isaeva, D. Baumann, A. Koitzsch, B. Büchner, C. Hess, [arXiv:2409.04294](https://arxiv.org/abs/2409.04294)
- Fermi arcs dominating the electronic surface properties of trigonal PtBi_2 , S. Hoffmann, S. Schimmel, R. Vocaturo, J. Puig, G. Shipunov, O. Janson, S. Aswartham, D. Baumann, B. Büchner, J. van den Brink, Y. Fasano, J. I. Facio, C. Hess, [arXiv:2407.15790](https://arxiv.org/abs/2407.15790)
- Surface superconductivity in the topological Weyl semimetal $t\text{-PtBi}_2$, S. Schimmel, Y. Fasano, S. Hoffmann, J. Besproswanny, L. T. Corredor, J. Puig, B.-C. Elshalem, B. Kalisky, G. Shipunov, D. Baumann, S. Aswartham, B. Büchner, C. Hess, [arXiv:2302.08968](https://arxiv.org/abs/2302.08968)
- Phonon thermal transport shaped by strong spin-phonon scattering in a Kitaev material $\text{Na}_2\text{Co}_2\text{TeO}_6$, X. Hong, M. Gillig, W. Yao, L. Janssen, V. Kocsis, S. Gass, Y. Li, A. U. B. Wolter, B. Büchner, C. Hess, [npj Quantum Materials 9, 18 \(2024\)](https://doi.org/10.1038/s41535-024-0018-2)

2023

- Spinon Heat Transport in the Three-Dimensional Quantum Magnet $\text{PbCuTe}_2\text{O}_6$, X. Hong, M. Gillig, A. R. N. Hanna, S. Chillal, A. T. M. Nazmul Islam, B. Lake, B. Büchner, C. Hess, [Phys. Rev. Lett. 131, 256701 \(2023\)](https://doi.org/10.1038/s41535-023-0018-2)
- Anomalous Nernst effect in the topological and magnetic material MnBi_4Te_7 , M. Ceccardi, A. Zeugner, L. C. Folkers, C. Hess, B. Büchner, D. Marré, A. Isaeva, F. Caglieris, [npj Quantum Materials 8, 76 \(2023\)](https://doi.org/10.1038/s41535-023-0018-2)
- Phononic-magnetic dichotomy of the thermal Hall effect in the Kitaev-Heisenberg candidate material $\text{Na}_2\text{Co}_2\text{TeO}_6$, M. Gillig, X. Hong, C. Wellm, V. Kataev, W. Yao, Y. Li, B. Büchner, C. Hess, [Phys. Rev. Research 5, 043110 \(2023\)](https://doi.org/10.1038/s41566-023-0018-2)
- Berezinskii–Kosterlitz–Thouless Transition in the Type-I Weyl Semimetal PtBi_2 , A. Veyrat, V. Labracherie, D. L. Bashlakov, F. Caglieris, J. I. Facio, G. Shipunov, T. Charvin, R. Acharya, Y. Naidyuk, R. Giraud, J. van den Brink, B. Büchner, C. Hess, S. Aswartham, J. Dufouleur, [Nano Lett. 23, 1229 \(2023\)](https://doi.org/10.1038/s41535-023-0018-2)

2022

- Heat transport of the kagomé Heisenberg quantum spin liquid candidate $\text{YCu}_3(\text{OH})_{6.5}\text{Br}_{2.5}$: localized magnetic excitations and spin gap, X. Hong, M. Behnami, L. Yuan, B. Li, W. Brenig, B. Büchner, Y. Li, C. Hess, [Phys. Rev. B 106, L220406 \(2022\)](https://doi.org/10.1103/PhysRevB.106.L220406)
- Absence of hexagonal-to-square lattice transition in LiFeAs vortex matter, S. Hoffmann, R. Schlegel, C. Salazar, S. Sykora, P. K. Nag, P. Khanenko, R. Beck, S. Aswartham, S. Wurmehl, B. Büchner, Y. Fasano, C. Hess, [Phys. Rev. B 106, 134507 \(2022\)](https://doi.org/10.1103/PhysRevB.106.134507)
- Ubiquitous enhancement of nematic fluctuations across the phase diagram of iron based superconductors probed by the Nernst effect, C. Wuttke, F. Caglieris, S. Sykora, F. Steckel, X. Hong, S. Ran, S. Khim, R. Kappenberger, S. L. Bud'ko, P. C. Canfield, S. Wurmehl, S. Aswartham, B. Büchner, C. Hess, [npj Quantum Materials 7, 82 \(2022\)](https://doi.org/10.1038/s41535-022-0018-2)
- Absence of nematic instability in LiFeAs , M. Wissmann, F. Caglieris, X. Hong, S. Aswartham, A. Vorobyova, I. Morozov, B. Büchner, C. Hess, [Phys. Rev. B 106, 054508 \(2022\)](https://doi.org/10.1103/PhysRevB.106.054508)
- Elastoresistivity of heavily hole doped 122 iron pnictides superconductors, X. Hong, S. Sykora, F. Caglieris, M. Behnami, I. Morozov, S. Aswartham, V. Grinenko, K. Kihou, C.-H. Lee, B. Büchner, C. Hess, [Front. Phys. 10, 853717 \(2022\)](https://doi.org/10.1038/s41535-022-0018-2)
- Spin liquid evidence at the edge and in bulk, A. U. B. Wolter, C. Hess, [Nature Physics 18, 378 \(2022\)](https://doi.org/10.1038/s41566-022-0018-2)
- A robust thermoelectric module based on $\text{MgAgSb}/\text{Mg}_3(\text{Sb},\text{Bi})_2$ with a conversion efficiency of 8.5% and a maximum cooling of 72 K, P. Ying, L. Wilkens, H. Reith, N. Perez Rodriguez, X. Hong, Q. Lu, C. Hess, K. Nielsch, R. He, [Energy & Environmental Science 15, 2557 \(2022\)](https://doi.org/10.1038/s41566-022-0018-2)

2021

- Thermal transport of the frustrated spin-chain mineral linarite: Magnetic heat transport and strong spin-phonon scattering, M. Gillig, X. Hong, P. Sakrikar, G. Bastien, A. U. B. Wolter, L. Heinze, S. Nishimoto, B. Büchner, C. Hess, [Phys. Rev. B 104, 235129 \(2021\)](#)
- State with spontaneously broken time-reversal symmetry above the superconducting phase transition, V. Grinenko, D. Weston, F. Caglieris, C. Wuttke, C. Hess, T. Gottschall, I. Maccari, D. Gorbunov, S. Zherlitsyn, J. Wosnitza, A. Rydh, K. Kihou, C.-H. Lee, R. Sarkar, S. Dengre, J. Garaud, A. Charnukha, R. Hühne, K. Nielsch, B. Büchner, H.-H. Klaus, E. Babaev, [Nature Physics 17, 1254 \(2021\)](#)
- Strongly scattered phonon heat transport of the candidate Kitaev material $\text{Na}_2\text{Co}_2\text{TeO}_6$, X. Hong, M. Gillig, R. Hentrich, W. Yao, V. Kocsis, A. R. Witte, T. Schreiner, D. Baumann, N. Pérez, A. U. B. Wolter, Y. Li, B. Büchner, C. Hess, [Phys. Rev. B 104, 144426 \(2021\)](#)
- Laser-Assisted Floating Zone Growth of BaFe_2S_3 Large-Sized Ferromagnetic-Impurity-Free Single Crystals, M. L. Amigó, A. Maljuk, K. Manna, Q. Stahl, C. Felser, C. Hess, A. U. B. Wolter, J. Geck, S. Seiro, B. Büchner, [Crystals 11, 758 \(2021\)](#)
- Revisiting the phase diagram of $\text{LaFe}_{1-x}\text{Co}_x\text{AsO}$ in single crystals by thermodynamic methods, F. Scaravaggi, S. Sauerland, L. Wang, R. Kappenberger, P. Lepucki, A. P. Dioguardi, X. Hong, F. Caglieris, C. Wuttke, C. Hess, H.-J. Grafe, S. Aswartham, S. Wurmehl, R. Klingeler, A. U. B. Wolter, B. Büchner, [Phys. Rev. B 103, 174506 \(2021\)](#)
- Evidence for a percolative Mott insulator-metal transition in doped Sr_2IrO_4 , Z. Sun, J. M. Guevara, S. Sykora, E. M. Pärshcke, K. Manna, A. Maljuk, S. Wurmehl, J. van den Brink, B. Büchner, C. Hess, [Phys. Rev. Research 3, 023075 \(2021\)](#)
- Strain derivative of thermoelectric properties as a sensitive probe for nematicity, F. Caglieris, C. Wuttke, X. C. Hong, S. Sykora, R. Kappenberger, S. Aswartham, S. Wurmehl, B. Büchner, C. Hess, [npj Quantum Materials 6, 27 \(2021\)](#)
- Thermoelectric Properties of Novel Semimetals: A Case Study of YbMnSb_2 , Y. Pan, F.-R. Fan, X. Hong, B. He, C. Le, W. Schnelle, Y. He, K. Imasato, H. Borrmann, C. Hess, B. Büchner, Y. Sun, C. Fu, G. J. Snyder, C. Felser, [Adv. Mater. 33, 2003168 \(2021\)](#)

2020

- High-field thermal transport properties of the Kitaev quantum magnet $\alpha\text{-RuCl}_3$: evidence for low-energy excitations beyond the critical field, R. Hentrich, X. Hong, M. Gillig, F. Caglieris, M. Culo, M. Shahrokhvand, U. Zeitler, M. Roslova, A. Isaeva, T. Doert, L. Janssen, M. Vojta, B. Büchner, C. Hess, [Phys. Rev. B 102, 235155 \(2020\)](#)
- Polymorphic PtBi_2 – candidate for topological superconductivity, G. Shipunov, I. Kovalchuk, B. R. Piening, V. Labracherie, A. Veyrat, D. Wolf, A. Lubk, S. Subakti, R. Giraud, J. Dufouleur, S. Shokri, F. Caglieris, C. Hess, D. V. Efremov, B. Büchner, S. Aswartham, [Phys. Rev. Materials 4, 124202 \(2020\)](#)
- Evolution of the nematic susceptibility in $\text{LaFe}_{1-x}\text{Co}_x\text{AsO}$, X. Hong, F. Caglieris, R. Kappenberger, S. Wurmehl, S. Aswartham, F. Scaravaggi, P. Lepucki, A. U. B. Wolter, H. Grafe, B. Büchner, C. Hess, [Phys. Rev. Lett. 125, 067001 \(2020\)](#)
- Hydrodynamical description for magneto-transport in the strange metal phase of Bi-2201 , A. Amoretti, M. Meinerio, D. K. Brattan, F. Caglieris, E. Giannini, M. Affronte, C. Hess, B. Büchner, N. Magnoli, M. Putti, [Phys. Rev. Research 2, 023387 \(2020\)](#)
- Substrate-Independent Magnetic Bistability in Monolayers of the Single-Molecule Magnet $\text{Dy}_2\text{ScN@C}_{80}$ on Metals and Insulators, D. S. Krylov, S. Schimmel, V. Dubrovin, F. Liu, T. T. N. Nguyen, L. Spree, C.-H. Chen, G. Velkos, C. Bulbucan, R. Westerström, M. Studniarek, J. Dreiser, C. Hess, B. Büchner, S. M. Avdoshenko, A. A. Popov, [Angewandte Chemie 59, 5756 \(2020\)](#)
- $\text{La}_6\text{Pd}_{2+x}\text{Sb}_{15}$ ($x = 0.28$): A rare-earth palladium intermetallic compound with extended pnictogen ribbons, M. I. Sturza, M. L. Amigó, J. I. Facio, F. Caglieris, S. Aswartham, S. Seiro, C. Hess, J. van den Brink, S. Wurmehl, B. Büchner, [Journal of Solid State Chemistry 291, 121578 \(2020\)](#)

- $\text{Mg}_3(\text{Bi,Sb})_2$ single crystals towards high thermoelectric performance, Y. Pan, M. Yao, X. Hong, Y. Zhu, F. Fan, K. Imasato, Y. He, C. Hess, J. Fink, J. Yang, B. Büchner, C. Fu, G. J. Snyder, C. Felser, [Energy Environ. Sci. 13, 1717 \(2020\)](#)
- Incommensurate magnet iron monophosphide FeP: Crystal growth and characterization, I. O. Chernyavskii, S. E. Nikitin, Y. A. Onykienko, D. S. Inosov, Q. Stahl, J. Geck, X. C. Hong, C. Hess, S. Gass, A. U. B. Wolter, D. Wolf, A. Lubk, D. V. Efremov, F. Yokaichiya, S. Aswartham, B. Büchner, I. V. Morozov, [Phys. Rev. Materials 4, 083403 \(2020\)](#)
- Disorder-induced coupling of Weyl nodes in WTe_2 , S. Sykora, J. Schoop, L. Graf, G. Shipunov, I. V. Morozov, S. Aswartham, B. Büchner, C. Hess, R. Giraud, J. Dufouleur, [Phys. Rev. Research 2, 033041 \(2020\)](#)

2019

- Topological Electronic Structure and Intrinsic Magnetization in MnBi_4Te_7 : A Bi_2Te_3 Derivative with a Periodic Mn Sublattice, R. C. Vidal, A. Zeugner, J. I. Facio, R. Ray, M. H. Haghghi, A. U. B. Wolter, L. T. Corredor Bohorquez, F. Cagliaris, S. Moser, T. Figgemeier, T. R. F. Peixoto, H. B. Vasili, M. Valvidares, S. Jung, C. Cacho, A. Alfonsov, K. Mehlawat, V. Kataev, C. Hess, M. Richter, B. Büchner, J. van den Brink, M. Ruck, F. Reinert, H. Bentmann, A. Isaeva, [Phys. Rev. X 9, 041065 \(2019\)](#)
- Berry curvature unravelled by the anomalous Nernst effect in MnGe_3 , C. Wuttke, F. Cagliaris, S. Sykora, F. Scaravaggi, A. U. B. Wolter, K. Manna, V. Süß, C. Shekhar, C. Felser, B. Büchner, C. Hess, [Phys. Rev. B 100, 085111 \(2019\)](#)
- Spectroscopic evidence of nematic fluctuations in LiFeAs , Z. Sun, P. K. Nag, S. Sykora, J. M. Guevara, S. Hoffmann, C. Salazar, T. Hänke, R. Kappenberger, S. Wurmehl, B. Büchner, C. Hess, [Phys. Rev. B 100, 024506 \(2019\)](#)
- Heat transport of cuprate-based low-dimensional quantum magnets with strong exchange coupling, C. Hess, [Physics Reports 811, 1 \(2019\)](#)
- Chemical Aspects of the Candidate Antiferromagnetic Topological Insulator MnBi_2Te_4 , A. Zeugner, F. Nietschke, A. U. B. Wolter, S. Gaß, R. C. Vidal, T. R. F. Peixoto, D. Pohl, C. Damm, A. Lubk, R. Hentrich, S. K. Moser, C. Fornari, C. H. Min, S. Schatz, K. Kißner, M. Ünzelmann, M. Kaiser, F. Scaravaggi, B. Rellinghaus, K. Nielsch, C. Hess, B. Büchner, F. Reinert, H. Bentmann, O. Oeckler, T. Doert, M. Ruck, A. Isaeva, [Chem. Mater. 31, 2795 \(2019\)](#)
- Spin-polaron ladder spectrum of the spin-orbit-induced Mott insulator Sr_2IrO_4 probed by scanning tunneling spectroscopy, J. M. Guevara, Z. Sun, E. M. Pärshcke, S. Sykora, K. Manna, J. Schoop, A. Maljuk, S. Wurmehl, J. van den Brink, B. Büchner, C. Hess, [Phys. Rev. B 99, 121114\(R\) \(2019\)](#)
- Large Thermal Hall Effect in $\alpha\text{-RuCl}_3$: Evidence for Heat Transport by Kitaev-Heisenberg Paramagnons, R. Hentrich, M. Roslova, A. Isaeva, T. Doert, W. Brenig, B. Büchner, C. Hess, [Phys. Rev. B 99, 085136 \(2019\)](#)

2018

- Anomalous Nernst effect and field-induced Lifshitz transition in the Weyl semimetals TaP and TaAs, F. Cagliaris, C. Wuttke, S. Sykora, V. Süß, C. Shekhar, C. Felser, B. Büchner, C. Hess, [Phys. Rev. B 98, 201107\(R\) \(2018\)](#)
- An ultra-high vacuum scanning tunneling microscope operating at sub-Kelvin temperatures and high magnetic fields for spin-resolved measurements, C. Salazar, D. Baumann, T. Hänke, M. Scheffler, T. Kühne, M. Kaiser, R. Voigtländer, D. Lindackers, B. Büchner, C. Hess, [Rev. Sci. Inst. 89, 065104 \(2018\)](#)
- Unusual Phonon Heat Transport in $\alpha\text{-RuCl}_3$: Strong Spin-Phonon Scattering and Field-Induced Spin Gap, R. Hentrich, A. U. B. Wolter, X. Zotos, W. Brenig, D. Nowak, A. Isaeva, T. Doert, A. Banerjee, P. Lampen-Kelley, D. G. Mandrus, S. E. Nagler, J. Sears, Y.-J. Kim, B. Büchner, C. Hess, [Phys. Rev. Lett. 120, 117204 \(2018\)](#)
- Impact of concomitant Y and Mn substitution on superconductivity in $\text{La}_{1-y}\text{Y}_y\text{Fe}_{1-x}\text{Mn}_x\text{AsO}_{0.89}\text{F}_{0.11}$, R. Kappenberger, F. Hammerath, P. Rousse, M. A. Afrassa, M. H. Haghghi, S. Kamusella, G. Prando, G. Lamura, A. U. B. Wolter, M. Moroni, S. Sanna, P. Carretta, C. Hess, H.-J. Grafe, H.-H. Klauss, S. Wurmehl, B. Büchner, [Phys. Rev. B 97, 054522 \(2018\)](#)

2017

- Effect of different in-chain impurities on the magnetic properties of the spin chain compound SrCuO₂ probed by NMR, Y. Utz, F. Hammerath, R. Kraus, T. Ritschel, J. Geck, L. Hozoi, J. van den Brink, A. Mohan, C. Hess, K. Karmakar, S. Singh, D. Bounoua, R. Saint-Martin, L. Pinsard-Gaudart, A. Revcolevschi, B. Büchner, H. Grafe, [Phys. Rev. B 96, 115135 \(2017\)](#)
- Adsorption characteristics of Er₃N@C₈₀ on W(110) and Au(111) studied via scanning tunneling microscopy and spectroscopy, S. Schimmel, Z. Sun, D. Baumann, D. Krylov, N. Samoylova, A. Popov, B. Büchner, C. Hess, [Beilstein J. Nanotechnol. 8, 1127 \(2017\)](#)
- Spin pseudogap in the S = 1/2 chain material Sr₂CuO₃ with impurities, G. Simutis, S. Gvasaliya, N. S. Beesetty, T. Yoshida, J. Robert, S. Petit, A. I. Kolesnikov, M. B. Stone, F. Bourdarot, H. C. Walker, D. T. Adroja, O. Sobolev, C. Hess, T. Masuda, A. Revcolevschi, B. Büchner, and A. Zheludev, [Phys. Rev. B 95, 054409 \(2017\)](#)
- Magnetic structure of La₈Cu₇O₁₉, K. Prokeš, E. Ressouche, A. Mohan, A. U. B. Wolter, B. Büchner, and C. Hess, [Phys. Rev. B 95, 024405 \(2017\)](#)
- Chemical vapor transport and characterization of MnBi₂Se₄, C. Nowka, M. Gellesch, J. E. Hamann Borrero, S. Partzsch, C. Wuttke, F. Steckel, C. Hess, A.U.B. Wolter, L. T. Corredor Bohorquez, B. Büchner, S. Hampel, [Journal of Crystal Growth 459, 81 \(2017\)](#)
- Defect states in LiFeAs as seen by low temperature scanning tunneling microscopy and spectroscopy, R. Schlegel, P. K. Nag, D. Baumann, R. Beck, S. Wurmehl, B. Büchner, C. Hess, [Phys. Status Solidi B, 254, 1600159 \(2017\)](#)
- A calorimetric investigation of RbFe₂As₂ single crystals, S. Khim, S. Aswartham, V. Grinenko, D. Efremov, C.G.F. Blum, F. Steckel, D. Gruner, A.U.B. Wolter, S.-L. Drechsler, C. Hess, S. Wurmehl, B. Büchner, [Phys. Status Solidi B, 254, 1600208 \(2017\)](#)
- Nematicity in LaFeAsO_{1-x}F_x, C. Hess, H. Grafe, A. Kondrat, G. Lang, F. Hammerath, L. Wang, R. Klingeler, G. Behr, B. Büchner, [Phys. Status Solidi B, 254, 1600214 \(2017\)](#)

2016

- Combined resistivity and Hall effect study on NaFe_{1-x}Rh_xAs single crystals, F. Steckel, F. Cagliaris, R. Beck, M. Roslova, D. Bombor, I. Morozov, S. Wurmehl, B. Büchner, C. Hess, [Phys. Rev. B 94, 184514 \(2016\)](#)
- Magnetotransport and de Haas-van Alphen measurements in the type-II Weyl semimetal TaIrTe₄, S. Khim, K. Koepernik, D.V. Efremov, J. Klotz, T. Förster, J. Wosnitza, M.I. Sturza, S. Wurmehl, C. Hess, J. van den Brink, B. Büchner, [Phys. Rev. B 94, 165145 \(2016\)](#)
- Spin dynamics and magnetic interactions of Mn dopants in the topological insulator Bi₂Te₃, S. Zimmermann, F. Steckel, C. Hess, H. W. Ji, Y. S. Hor, R. J. Cava, B. Büchner, V. Kataev, [Phys. Rev. B 94, 125205 \(2016\)](#)
- Pseudospin transport in the J_{eff} = 1/2 antiferromagnet Sr₂IrO₄, F. Steckel, A. Matsumoto, T. Takayama, H. Takagi, B. Büchner, C. Hess, [EPL \(Europhysics Letters\) 114, 57007 \(2016\)](#)
- Physical properties optimization of polycrystalline LiFeAs, S.J. Singh, U. Gräfe, R. Beck, A.U.B. Wolter, H. Grafe, C. Hess, S. Wurmehl, B. Büchner, [Physica C 529, 8 \(2016\)](#)
- Magnetic ordering in the ultrapure site-diluted spin chain materials SrCu_{1-x}Ni_xO₂, G. Simutis, M. Thede, R. Saint-Martin, A. Mohan, C. Baines, Z. Guguchia, R. Khasanov, C. Hess, A. Revcolevschi, B. Büchner, A. Zheludev, [Phys. Rev. B 93, 214430 \(2016\)](#)
- Two distinct superconducting phases in LiFeAs, P. K. Nag, R. Schlegel, D. Baumann, H.-J. Grafe, R. Beck, S. Wurmehl, B. Büchner, C. Hess, [Scientific Reports 6, 27926 \(2016\)](#)
- STM study of Au(111) surface-grafted paramagnetic macrocyclic complexes [Ni₂L(Hmba)]⁺ via ambidentate coligands, C. Salazar, J. Lach, F. Ruckerl, D. Baumann, S. Schimmel, M. Knupfer, B. Kersting, B. Büchner, C. Hess, [Langmuir 32, 4464 \(2016\)](#)
- Unusual magnetotransport properties in a FeAs single crystal, S. Khim, M. Gillig, R. Klingeler, S. Wurmehl, B. Büchner, C. Hess, [Phys. Rev. B 93, 205129 \(2016\)](#)
- Single crystal growth of spin-ladder compound La₈Cu₇O₁₉ by the travelling-solvent floating zone method, A. Mohan, S. Singh, S. Partzsch, M. Zwiebler, J. Geck, S. Wurmehl, B. Büchner, C. Hess, [Journal of Crystal Growth 448, 21 \(2016\)](#)

- Ba₂YIrO₆: A cubic double perovskite material with Ir⁵⁺ ions, T. Dey, A. Maljuk, D. V. Efremov, O. Kataeva, S. Gass, C. G. F. Blum, F. Steckel, D. Gruner, T. Ritschel, A. U. B. Wolter, J. Geck, C. Hess, K. Koepernik, J. van den Brink, S. Wurmehl, B. Büchner, [Phys. Rev. B 93, 014434 \(2016\)](#)

2015

- Suppression of the impurity-induced local magnetism by the opening of a spin pseudogap in Ni-doped Sr₂CuO₃, Y. Utz, F. Hammerath, S. Nishimoto, C. Hess, N. S. Beesetty, R. Saint-Martin, A. Revcolevschi, B. Büchner, H. Grafe, [Phys. Rev. B 92, 060405\(R\) \(2015\)](#)
- Superconducting spin-valve effect and triplet superconductivity in CoO_x/Fe1/Cu/Fe2Cu/Pb multilayer, P. V. Leksin, N. N. Garif'yanov, A. A. Kamashev, Ya. V. Fominov, J. Schumann, C. Hess, V. Kataev, B. Büchner, I. A. Garifullin, [Phys. Rev. B 91, 214508 \(2015\)](#)
- Crystal growth and electronic phase diagram of 4d doped Na_{1-δ}Fe_{1-x}Rh_xAs in comparison to 3d doped Na_{1-δ}Fe_{1-x}Co_xAs, F. Steckel, M. Roslova, R. Beck, I. Morozov, S. Aswartham, D. Evtushinsky, C. G. F. Blum, M. Abdel-Hafiez, D. Bombor, J. Maletz, S. Borisenko, A. V. Shevelkov, A. U. B. Wolter, C. Hess, S. Wurmehl, B. Büchner, [Phys. Rev. B 91, 184516 \(2015\)](#)
- Characterization of doped Na(Fe_{1-x}T_x)As single crystals with T = Pd, Ni, Cr, Mn, F. Steckel, R. Beck, M. Roslova, M. Abdel-Hafiez, A. U. B. Wolter, I. Morozov, S. Wurmehl, C. Hess, B. Büchner, [J. Supercond. Nov. Magn. 28, 1123 \(2015\)](#)
- Granular behavior observed in polycrystalline superconducting LiFeAs, S. J. Singh, R. Beck, S. Wurmehl, C. Hess, Bernd Büchner, [Supercond. Sci. Technol. 28, 025006 \(2015\)](#)

2014

- Spin density wave order and fluctuations in Mn₃Si: a transport study, F. Steckel, S. Rodan, R. Hermann, C. G. F. Blum, S. Wurmehl, B. Büchner, C. Hess, [Phys. Rev. B 90, 134411 \(2014\)](#)
- Thermoelectric effects and magnetic anisotropy of Ga_{1-x}Mn_xAs thin films, I. V. Soldatov, N. Panarina, C. Hess, L. Schultz, R. Schäfer, [Phys. Rev. B 90, 104423 \(2014\)](#)
- Growth of single crystalline delafossite LaCuO₂ by the travelling-solvent floating zone method, A. Mohan, B. Büchner, S. Wurmehl, C. Hess, [Journal of Crystal Growth 402, 304 \(2014\)](#)
- Spin gap in the single spin-chain cuprate Sr_{1.9}Ca_{0.1}Cu₂O₃, F. Hammerath, E. M. Brüning, S. Sanna, Y. Utz, N. S. Beesetty, R. Saint-Martin, A. Revcolevschi, C. Hess, B. Büchner, H.-J. Grafe, [Phys. Rev. B 89, 184410 \(2014\)](#)
- Specific heat of Ca_{0.32}Na_{0.68}Fe₂As₂ single crystals: Unconventional s_± multiband superconductivity with intermediate repulsive interband coupling and sizable attractive intraband couplings, S. Johnston, M. Abdel-Hafiez, L. Harnagea, V. Grinenko, D. Bombor, Y. Krupskaya, C. Hess, S. Wurmehl, A. U. B. Wolter, B. Büchner, H. Rosner, S.-L. Drechsler, [Phys. Rev. B 89, 134507 \(2014\)](#)
- Thin film growth of Fe-based superconductors: from fundamental properties to functional devices. A comparative review, S. Haindl, M. Kieszun, S. Oswald, C. Hess, B. Büchner, S. Kölling, L. Wilde, T. Thersleff, V. V. Yurchenko, M. Jourdan, H. Hiramatsu, H. Hosono, [Rep. Prog. Phys. 77, 046502 \(2014\)](#)
- Bond disorder and spinon heat transport in the S = 1/2 Heisenberg spin chain compound Sr₂CuO₃: from clean to dirty limits, A. Mohan, N. Sekhar Beesetty, N. Hlubek, R. Saint-Martin, A. Revcolevschi, B. Büchner, C. Hess, [Phys. Rev. B 89, 104302 \(2014\)](#)
- Crystal growth, structure, and transport properties of the charge-transfer salt picene/2,3,5,6-tetrafluoro-7,7,8,8-tetracyanoquinodimethane, B. Mahns, O. Kataeva, D. Islamov, S. Hampel, F. Steckel, C. Hess, M. Knupfer, B. Büchner, C. Himcinschi, T. Hahn, R. Renger, J. Kortus, [Cryst. Growth Des. 14, 1338 \(2014\)](#)
- Design and Properties of a Cryogenic Dip-Stick Scanning Tunneling Microscope with Capacitive Coarse Approach Control, R. Schlegel, T. Hänke, D. Baumann, M. Kaiser, P. K. Nag, R. Voigtländer, D. Lindackers, B. Büchner, C. Hess, [Review of Scientific Instruments 85, 013706 \(2014\)](#)

2013

- Evidence for a vortex–glass transition in superconducting $\text{Ba}(\text{Fe}_{0.9}\text{Co}_{0.1})_2\text{As}_2$, G. Prando, R. Giraud, S. Aswartham, O. Vakaliuk, M. Abdel-Hafiez, C. Hess, S. Wurmehl, A. U. B. Wolter, B. Büchner, [J. Phys.: Condens. Matter 25, 505701 \(2013\)](#)
- Spin pseudogap in Ni-doped SrCuO_2 , G. Simutis, S. Gvasaliya, M. Månsson, A. L. Chernyshev, A. Mohan, S. Singh, C. Hess, A. T. Savici, A. I. Kolesnikov, A. Piovano, T. Perring, I. Zaliznyak, B. Büchner, A. Zheludev, [Phys. Rev. Lett. 111, 067204 \(2013\)](#)
- Low temperature ballistic spin transport in the $S = 1/2$ antiferromagnetic Heisenberg chain compound SrCuO_2 , H. Maeter, A. A. Zvyagin, H. Luetkens, G. Pascua, Z. Shermadini, R. Saint-Martin, A. Revcolevschi, C. Hess, B. Büchner, H.-H. Klauss, [J. Phys.: Condens. Matter 25, 365601 \(2013\)](#)
- Evidence of d-wave superconductivity in $\text{K}_{1-x}\text{Na}_x\text{Fe}_2\text{As}_2$ ($x = 0, 0.1$) single crystals from low-temperature specific-heat measurements, M. Abdel-Hafiez, V. Grinenko, S. Aswartham, I. Morozov, M. Roslova, O. Vakaliuk, S. Johnston, D. V. Efremov, J. van den Brink, H. Rosner, M. Kumar, C. Hess, S. Wurmehl, A. U. B. Wolter, B. Büchner, E. L. Green, J. Wosnitza, P. Vogt, A. Reifenberger, C. Enss, M. Hempel, R. Klingeler, S.-L. Drechsler, [Phys. Rev. B 87, 180507 \(2013\)](#)
- Role of in-plane and out-of-plane dilution in CeFeAsO : Charge doping versus disorder, G. Prando, O. Vakaliuk, S. Sanna, G. Lamura, T. Shiroka, P. Bonfà, P. Carretta, R. De Renzi, H.-H. Klauss, C. G. F. Blum, S. Wurmehl, C. Hess, B. Büchner, [Phys. Rev. B 87, 174519 \(2013\)](#)
- Phonon-magnon interaction in low dimensional quantum magnets observed by dynamic heat transport measurements, M. Montagnese, M. Otter, X. Zotos, D. A. Fishman, N. Hlubek, O. Mitiashtkin, C. Hess, R. Saint-Martin, S. Singh, A. Revcolevschi, P. H. M. van Loosdrecht, [Phys. Rev. Lett. 110, 147206 \(2013\)](#)
- Half-metallic ferromagnetism with unexpectedly small spin splitting in the Heusler compound Co_2FeSi , D. Bombor, C. G. F. Blum, O. Volkonskiy, S. Rodan, S. Wurmehl, C. Hess, B. Büchner, [Phys. Rev. Lett. 110, 066601 \(2013\)](#)
- Interband Quasiparticle Scattering in Superconducting LiFeAs Reconciles Photoemission and Tunneling Measurements, C. Hess, S. Sykora, T. Hänke, R. Schlegel, D. Baumann, V. B. Zabolotnyy, L. Harnagea, S. Wurmehl, J. van den Brink, B. Büchner, [Phys. Rev. Lett. 110, 017006 \(2013\)](#)
- Structural study of monolayer cobalt phthalocyanine adsorbed on graphite, M. Scheffler, L. Smykalla, D. Baumann, R. Schlegel, T. Hänke, M. Toader, B. Büchner, M. Hietschold, C. Hess, [Surface Science 608, 55 \(2013\)](#)
- Peculiarities of performance of the spin valve for the superconducting current, P. V. Leksin, A. A. Kamashev, N. N. Garif'yanov, I. A. Garifullin, Ya. V. Fominov, J. Schumann, C. Hess, V. Kataev, B. Büchner, *JETP Letters*, 97, 478 (2013)
- Microwave absorption study of pinning regimes in $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ single crystals, Y. Talanov, N. Beisengulov, G. Kornilov, T. Shaposhnikova, E. Vavilova, C. Nacke, S. Wurmehl, N. Panarina, C. Hess, V. Kataev, B. Büchner, [Supercond. Sci. Technol. 26, 045015 \(2013\)](#)
- Nernst effect of iron pnictide and cuprate superconductors: signatures of spin density wave and stripe order, C. Hess, Publication in: *New Materials for Thermoelectrics: Theory and Experiment*, V. Zlatic and A. Hewson, editors, Proceedings of NATO Advanced Research Workshop, Hvar, Croatia, September 19 -25, 2011, NATO Science for Peace and Security Series B: Physics and Biophysics (Springer Science+Business Media Dordrecht 2013)
- Disordered magnetism in superconducting KFe_2As_2 single crystals, V. Grinenko, S.-L. Drechsler, M. Abdel-Hafiez, S. Aswartham, A. U. B. Wolter, S. Wurmehl, C. Hess, K. Nenkov, G. Fuchs, D. V. Efremov, B. Holzapfel, J. van den Brink, B. Büchner, [Phys. Status Solidi B. 250, 593 \(2013\)](#)

2012

- Magnetic frustration, phase competition, and the magnetoelectric effect in $\text{NdFe}_3(\text{BO}_3)_4$, J. E. Hamann-Borrero, S. Partzsch, S. Valencia, C. Mazzoli, J. Herrero-Martin, R. Feyerherm, E. Dudzik, C. Hess, A. Vasiliev, L. Bezmaternykh, B. Büchner, J. Geck, [Phys. Rev. Lett. 109, 267202 \(2012\)](#)

- Probing local hydrogen impurities in quasi-free-standing graphene, M. Scheffler, D. Haberer, L. Petaccia, M. Farjam, R. Schlegel, D. Baumann, T. Hänke, A. Grüneis, M. Knupfer, C. Hess, B. Büchner, [ACS Nano 6, 10590 \(2012\)](#)
- Incommensurate magnetic fluctuations and Fermi surface topology in LiFeAs, J. Knolle, V. B. Zabolotnyy, I. Eremin, S. V. Borisenko, N. Qureshi, M. Braden, D. V. Evtushinsky, T. K. Kim, A. A. Kordyuk, S. Sykora, C. Hess, I. V. Morozov, S. Wurmehl, R. Moessner, B. Büchner, [Phys. Rev. B 86, 174519 \(2012\)](#)
- Hole-doping in BaFe₂As₂: The case of Ba_{1-x}Na_xFe₂As₂ single crystals, S. Aswartham, M. Abdel-Hafiez, D. Bombor, M. Kumar, A. U. B. Wolter, C. Hess, D. V. Evtushinsky, V. B. Zabolotnyy, A. A. Kordyuk, T. K. Kim, S. V. Borisenko, G. Behr, B. Büchner, S. Wurmehl, [Phys. Rev. B 85, 224520 \(2012\)](#)
- Specific heat and upper critical fields in KFe₂As₂ single crystals, M. Abdel-Hafiez, S. Aswartham, S. Wurmehl, V. Grinenko, C. Hess, S.-L. Drechsler, S. Johnston, A. U. B. Wolter, B. Büchner, H. Rosner, L. Boeri, [Phys. Rev. B 85, 134533 \(2012\)](#)
- Gd³⁺ electron spin resonance spectroscopy on LaO_{1-x}F_xFeAs superconductors, A. Alfonsov, F. Murányi, N. Leps, R. Klingeler, A. Kondrat, C. Hess, S. Wurmehl, A. Köhler, G. Behr, V. Kataev, B. Büchner, Journal of Experimental and Theoretical Physics 114, 662 (2012)
- Probing the Unconventional Superconducting State of LiFeAs by Quasiparticle Interference, T. Hänke, S. Sykora, R. Schlegel, D. Baumann, L. Harnagea, S. Wurmehl, M. Daghofer, B. Büchner, J. van den Brink, C. Hess, [Phys. Rev. Lett. 108, 127001 \(2012\)](#)
- Spinon heat transport and spin-phonon interaction in the antiferromagnetic spin-1/2 Heisenberg chain cuprates Sr₂CuO₃ and SrCuO₂, N. Hlubek, X. Zotos, S. Singh, R. Saint-Martin, A. Revcolevschi, B. Büchner, C. Hess, [J. Stat. Mech. P03006 \(2012\)](#)
- Optical probing of anisotropic heat transport in the quantum spin ladder Ca₉La₅Cu₂₄O₄₁, M. Otter, G. Athanasopoulos, N. Hlubek, M. Montagnese, M. Labois, D. A. Fishman, F. de Haan, S. Singh, D. Lakehal, J. Giapintzakis, C. Hess, A. Revcolevschi, P. H. M. van Loosdrecht, [International Journal of Heat and Mass Transfer, 55, 2531 \(2012\)](#)

2011

- Bond disorder and breakdown of ballistic heat transport in the spin-1/2 antiferromagnetic Heisenberg chain as seen in Ca-doped SrCuO₂, N. Hlubek, P. Ribeiro, R. Saint-Martin, S. Nishimoto, A. Revcolevschi, S.-L. Drechsler, G. Behr, J. Trinckauf, J. E. Hamann-Borrero, J. Geck, B. Büchner, C. Hess, [Phys. Rev. B 84, 214419 \(2011\)](#)
- Transport and thermal properties of single- and polycrystalline NiZr_{0.5}Hf_{0.5}Sn, S. Ouardi, G. H. Fecher, C. Felser, C. G. F. Blum, D. Bombor, C. Hess, S. Wurmehl, B. Büchner, E. Ikenaga, [Appl. Phys. Lett. 99, 152112 \(2011\)](#)
- Resistivity and Hall effect of LiFeAs: Evidence for electron-electron scattering, O. Heyer, T. Lorenz, V. B. Zabolotnyy, D. V. Evtushinsky, S. V. Borisenko, I. Morozov, L. Harnagea, S. Wurmehl, C. Hess, B. Büchner, [Phys. Rev. B 84, 064512 \(2011\)](#)
- Suppressed superconductivity in charge-doped Li(Fe_{1-x}Co_x)As single crystals, S. Aswartham, G. Behr, L. Harnagea, D. Bombor, A. Bachmann, I. V. Morozov, V. B. Zabolotnyy, A. A. Kordyuk, T. K. Kim, D. V. Evtushinsky, S. V. Borisenko, A. U. B. Wolter, C. Hess, S. Wurmehl, B. Büchner, [Phys. Rev. B 84, 054534 \(2011\)](#)
- Disorder-induced Spin Gap in the Zigzag Spin-1/2 Chain Cuprate Sr_{0.9}Ca_{0.1}CuO₂, F. Hammerath, S. Nishimoto, H.-J. Grafe, A. U. B. Wolter, V. Kataev, P. Ribeiro, C. Hess, S.-L. Drechsler, B. Büchner, [Phys. Rev. Lett. 107, 17203 \(2011\)](#)
- Raman evidence for the superconducting gap and spin-phonon coupling in the superconductor Ca(Fe_{0.95}Co_{0.05})₂As₂, P. Kumar, A. Bera, D. V. S. Muthu, A. Kumar, U. V. Waghmare, L. Harnagea, C. Hess, S. Wurmehl, S. Singh, B. Büchner, A. K. Sood, [J. Phys.: Condens. Matter 23, 255403 \(2011\)](#)
- Unusual Nernst effect and spin density wave precursors in superconducting LaFeAsO_{1-x}F_x, A. Kondrat, G. Behr, B. Büchner, C. Hess, [Phys. Rev. B 83, 092507 \(2011\)](#)

- Phase diagram of iron-arsenide superconductors $\text{Ca}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ($0 \leq x \leq 0.2$), L. Harnagea, S. Singh, G. Friemel, N. Leps, D. Bombor, M. Abdel-Hafiez, A.U.B. Wolter, C. Hess, R. Klingeler, G. Behr, S. Wurmehl, B. Büchner, [Phys. Rev. B 83, 094523 \(2011\)](#)
- High field electron spin resonance spectroscopy study of $\text{GdFeAsO}_{1-x}\text{F}_x$ superconductors, A. Alfonsov, F. Muranyi, V. Kataev, G. Lang, N. Leps, L. Wang, R. Klingeler, A. Kondrat, C. Hess, S. Wurmehl, A. Köhler, G. Behr, S. Hampel, M. Deutschmann, S. Katrych, N. D. Zhigadlo, Z. Bukowski, J. Karpinski, B. Büchner, [Phys. Rev. B 83, 094526 \(2011\)](#)
- Photoemission induced gating of topological insulator, A. A. Kordyuk, T. K. Kim, V. B. Zabolotnyy, D. V. Evtushinsky, M. Bauch, C. Hess, B. Büchner, H. Berger, S. V. Borisenko, [Phys. Rev. B 83, 081303\(R\) \(2011\)](#)
- Single crystal growth and physical properties of superconducting ferro-pnictides $\text{Ba}(\text{Fe},\text{Co})_2\text{As}_2$ grown using self-flux and Bridgman techniques, S. Aswartham, C. Nacke, G. Friemel, N. Leps, S. Wurmehl, N. Wizen, C. Hess, R. Klingeler, G. Behr, S. Singh, B. Büchner, [Journal of Crystal Growth 134, 341 \(2011\)](#)

2010

- Plasmons and interband transitions of $\text{Ca}_{11}\text{Sr}_3\text{Cu}_{24}\text{O}_{41}$ investigated by electron energy-loss spectroscopy, F. Roth, C. Hess, B. Büchner, U. Ammerahl, A. Revcolevschi, M. Knupfer, [Phys. Rev. B 82, 245110 \(2010\)](#)
- Crystal and magnetic structure of the oxypnictide superconductor $\text{LaFeAsO}_{1-x}\text{F}_x$: A neutron-diffraction study, N. Qureshi, Y. Drees, J. Werner, S. Wurmehl, C. Hess, R. Klingeler, B. Büchner, M. T. Fernandez-Diaz, M. Braden, [Phys. Rev. B 82, 184521 \(2010\)](#)
- Nernst effect of stripe ordering $\text{La}_{1.8-x}\text{Eu}_{0.2}\text{Sr}_x\text{CuO}_4$, C. Hess, E.M. Ahmed, U. Ammerahl, A. Revcolevschi, B. Büchner, [Eur. Phys. J. - Special Topics 188, 103 \(2010\)](#)
- Single crystal growth and characterization of superconducting LiFeAs , I. Morozov, A. Boltalin, O. Volkova, A. Vasiliev, O. Kataeva, U. Stockert, M. Abdel-Hafiez, D. Bombor, A. Bachmann, L. Harnagea, M. Fuchs, H.-J. Grafe, G. Behr, R. Klingeler, S. Borisenko, C. Hess, S. Wurmehl, B. Büchner, [Cryst. Growth Des. 10, 4428 \(2010\)](#)
- Bridging Charge-Orbital Ordering and Fermi Surface Instabilities in Half-Doped Single-Layered Manganite $\text{La}_{0.5}\text{Sr}_{1.5}\text{MnO}_4$, D. V. Evtushinsky, D. S. Inosov, G. Urbanik, V. B. Zabolotnyy, R. Schuster, P. Sass, T. Hänke, C. Hess, B. Büchner, R. Follath, P. Reutler, A. Revcolevschi, A. A. Kordyuk, S. V. Borisenko, [Phys. Rev. Lett. 105, 147201 \(2010\)](#)
- Non-Resonant X-ray Magnetic Scattering on Rare-Earth Iron Borates $\text{RFe}_3(\text{BO}_3)_4$, J.E. Hamann-Borrero, M. Philipp, O. Kataeva, M. v. Zimmermann, J. Geck, R. Klingeler, A. Vasiliev, L. Bezmaternykh, B. Büchner, C. Hess, [Phys. Rev. B 82, 094411 \(2010\)](#)
- Magnetodielectric and magnetoelastic coupling in $\text{TbFe}_3(\text{BO}_3)_4$, U. Adem, L. Wang, D. Fausti, W. Schottenhamel, P. H. M. van Loosdrecht, A. Vasiliev, L. N. Bezmaternykh, B. Büchner, C. Hess, R. Klingeler, [Phys. Rev. B 82, 064406 \(2010\)](#)
- Critical current and vortex dynamics in single crystals of $\text{Ca}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$, A. K. Pramanik, L. Harnagea, S. Singh, S. Aswartham, G. Behr, S. Wurmehl, C. Hess, R. Klingeler, B. Büchner, [Phys. Rev. B 82, 014503 \(2010\)](#)
- Pinning effects in ceramic $\text{SmO}_{1-x}\text{F}_x\text{FeAs}$ as revealed by microwave absorption, N. Y. Panarina, Y. I. Talanov, T. S. Shaposhnikova, N. R. Beysengulov, E. Vavilova, G. Behr, A. Kondrat, C. Hess, N. Leps, S. Wurmehl, R. Klingeler, V. Kataev, B. Büchner, [Phys. Rev. B 81, 224509 \(2010\)](#)
- Observation of the Fermi surface, the band structure, and their diffraction replicas of $\text{Sr}_{14-x}\text{Ca}_x\text{Cu}_{24}\text{O}_{41}$ by angle-resolved photoemission spectroscopy, A. Koitzsch, D. S. Inosov, H. Shiozawa, V. B. Zabolotnyy, S. V. Borisenko, A. Varykhalov, C. Hess, M. Knupfer, U. Ammerahl, A. Revcolevschi, B. Büchner, [Phys. Rev. B 81, 113110 \(2010\)](#)
- Thermal conductivity of the spin-Peierls compounds TiOCl and TiOBr , N. Hlubek, M. Sing, S. Glawion, R. Claessen, S. van Smaalen, P.H.M. van Loosdrecht, B. Büchner, C. Hess, [Phys. Rev. B 81, 144428 \(2010\)](#)
- Graphene Synthesis on Cubic SiC/Si Wafers - Perspectives for Mass Production of Graphene-based Electronic Devices, V. Y. Aristov, G. Urbanik, K. Kummer, D. V. Vyalikh, O. V.

Molodtsova, A. B. Preobrajenski, C. Hess, T. Hänke, B. Büchner, I. Vobornik, J. Fujii, G. Panaccione, Y.A. Ossipyan, M. Knupfer, [Nano Lett. 10, 992 \(2010\)](#)

- Ballistic heat transport of quantum spin excitations as seen in SrCuO₂, N. Hlubek, P. Ribeiro, R. Saint-Martin, A. Revcolevschi, G. Roth, G. Behr, B. Büchner, C. Hess, [Phys. Rev. B 81, 020301\(R\) \(2010\)](#)
- Local antiferromagnetic correlations in the iron pnictide superconductors LaFeAsO_{1-x}F_x and Ca(Fe_{1-x}Co_x)₂As₂ as seen via normal-state susceptibility, R. Klingeler, N. Leps, I. Hellmann, A. Popa, U. Stockert, C. Hess, V. Kataev, H.-J. Grafe, F. Hammerath, G. Lang, S. Wurmehl, G. Behr, L. Harnagea, S. Singh, B. Büchner [Phys. Rev. B 81, 024506 \(2010\)](#)
- Thermal expansion of RFeAsO (R=La,Ce,Pr,Sm,Gd), R. Klingeler, L. Wang, U. Köhler, G. Behr, C. Hess, B. Büchner, [J. Phys.: Conf. Ser. 200, 012088 \(2010\)](#)
- Microwave absorption study of polycrystalline SmO_{1-x}F_xFeAs, N.Y. Panarina, Y.I. Talanov, T.S. Shaposhnikova, N.R. Beysengulov, E.L. Vavilova, V. Kataev, G. Behr, A. Kondrat, C. Hess, N. Leps, R. Klingeler, B. Büchner, [J. Phys.: Conf. Ser. 200, 12154 \(2010\)](#)
- High Field ESR Spectroscopy on GdO_{1-x}F_xFeAs, A. Alfonsov, F. Murányi, V. Kataev, N. Leps, R. Klingeler, A. Kondrat, C. Hess, J. Werner, G. Behr, B. Büchner, [J. Low Temp. Phys. 159, 172 \(2010\)](#)

2009

- Iron-based superconductors: Vital clues from a basic compound, B. Büchner, C. Hess, [Nature Materials – News and Views 8, 615 \(2009\)](#)
- 1-(alpha-Aminobenzyl)-2-naphthol: A new chiral auxiliary for the synthesis of enantiopure - aminophosphonic acids, K.E. Metlushka, B.A. Kashemirov, V.F. Zheltukhin, D.N. Sadkova, B. Büchner, C. Hess, O.N. Kataeva, C.E. McKenna, V.A. Alfonsov, [Chemistry - A European Journal 15, 6718 \(2009\)](#)
- Imaging the essential role of spin-fluctuations in high-T_c superconductivity, N. Jenkins, Y. Fasano, C. Berthod, I. Maggio-Aprile, A. Piriou, E. Giannini, B. W. Hoogenboom, C. Hess, T. Cren, Ø. Fischer, [Phys. Rev. Lett. 103, 227001 \(2009\)](#)
- Highly ordered, half-metallic Co₂FeSi single crystals, C. G. F. Blum, C. A. Jenkins, J. Barth, C. Felser, S. Wurmehl, G. Friemel, C. Hess, G. Behr, B. Büchner, A. Reller, S. Riegg, S. G. Ebbinghaus, T. Ellis, P. J. Jacobs, J. T. Kohlhepp, H. J. M. Swagten, [Appl. Phys. Lett. 95, 161903 \(2009\)](#)
- Thermal expansion of LaFeAsO: Evidence for high-temperature fluctuations, L. Wang, U. Köhler, N. Leps, A. Kondrat, M. Nale, A. Gasparini, A. de Visser, G. Behr, C. Hess, R. Klingeler, B. Büchner, [Phys. Rev. B 80, 094512 \(2009\)](#)
- Interplay of rare earth and iron magnetism in RFeAsO (R = La, Ce, Pr, and Sm): Muon-spin relaxation study and symmetry analysis, H. Maeter, H. Luetkens, Yu. G. Pashkevich, A. Kwadrin, R. Khasanov, A. Amato, A. A. Gusev, K. V. Lamonova, D. A. Chervinskii, R. Klingeler, C. Hess, G. Behr, B. Büchner, H.-H. Klauss, [Phys. Rev. B 80, 094524 \(2009\)](#)
- Andreev spectroscopy of LaFeAsO_{0.9}F_{0.1}, Ya. G. Ponomarev, S. A. Kuzmichev, M. G. Mikheev, M. V. Sudakova, S. N. Tchesnokov, O. S. Volkova, and A. N. Vasiliev, T. Hänke, C. Hess, G. Behr, R. Klingeler, B. Büchner, [Phys. Rev. B 79, 224517 \(2009\)](#)
- Temperature and Doping-Dependent Renormalization Effects of the Low Energy Electronic Structure of Ba_{1-x}K_xFe₂As₂ Single Crystals, A. Koitzsch, D. S. Inosov, D. V. Evtushinsky, V. B. Zabolotnyy, A. A. Kordyuk, A. Kondrat, C. Hess, M. Knupfer, B. Büchner, G. L. Sun, V. Hinkov, C. T. Lin, A. Varykhalov, S. V. Borisenko, [Phys. Rev. Lett. 102, 167001 \(2009\)](#)
- The intrinsic electronic phase diagram of iron-oxypnictide superconductors, C. Hess, A. Kondrat, A. Narduzzo, J. E. Hamann-Borrero, R. Klingeler, J. Werner, G. Behr, B. Büchner, [Europhys. Lett. 87, 17005 \(2009\)](#)
- Synthesis and physical properties of LaO_{1-x}F_xFeAs, A. Kondrat, J. E. Hamann-Borrero, N. Leps, M. Kosmala, O. Schumann, J. Werner, G. Behr, M. Braden, R. Klingeler, B. Büchner, C. Hess, [Eur. Phys. J. B 70, 461 \(2009\)](#)
- Electronic phase diagram of the LaO_{1-x}F_xFeAs superconductor, H. Luetkens, H.-H. Klauss, M. Kraken, F. J. Litterst, T. Dellmann, R. Klingeler, C. Hess, R. Khasanov, A. Amato, C. Baines, J.

Hamann-Borrero, N. Leps, A. Kondrat, G. Behr, J. Werner, B. Büchner, [Nature Materials 8, 305 \(2009\)](#)

- Surface of underdoped $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ as revealed by STM/STS, G. Urbanik, T. Hänke, C. Hess, B. Büchner, A. Ciszewski, V. Hinkov, C.T. Lin, B. Keimer, [Eur. Phys. J. B 69, 483 \(2009\)](#)

2008

- Optical study of $\text{LaO}_{0.9}\text{F}_{0.1}\text{FeAs}$: Evidence for a Weakly Coupled Superconducting State, S.-L. Drechsler, M. Grobosch, K. Koepnik, G. Behr, A. Köhler, J. Werner, A. Kondrat, N. Leps, C. Hess, R. Klingeler, R. Schuster, B. Büchner, M. Knupfer, [Phys. Rev. Lett. 101, 257004 \(2008\)](#)
- High-Field Pauli-Limiting Behavior and Strongly Enhanced Upper Critical Magnetic Fields near the Transition Temperature of an Arsenic-Deficient $\text{LaO}_{0.9}\text{F}_{0.1}\text{FeAs}_{1-\delta}$ Superconductor, G. Fuchs, S. -L. Drechsler, N. Kozlova, G. Behr, A. Köhler, J. Werner, K. Nenkov, C. Hess, R. Klingeler, J. E. Hamann-Borrero, A. Kondrat, M. Grobosch, M. Knupfer, J. Freudenberger, B. Büchner, L. Schultz, [Phys. Rev. Lett. 101, 237003 \(2008\)](#)
- Magnetic Ordering and Negative Thermal Expansion in PrFeAsO , S. A. J. Kimber, D. N. Argyriou, F. Yokaichiya, K. Habicht, S. Gerischer, T. Hansen, T. Chatterji, R. Klingeler, C. Hess, G. Behr, A. Kondrat, B. Büchner, [Phys. Rev. B 78, 140503 \(2008\)](#)
- Crossover in charge transport from one-dimensional copper-oxygen chains to two-dimensional ladders in $(\text{La},\text{Y})_y(\text{Sr},\text{Ca})_{14-y}\text{Cu}_{24}\text{O}_{41}$, T. Ivek and T. Vuletic, B. Korin-Hamzic, O. Milat, S. Tomic, B. Gorshunov, M. Dressel, J. Akimitsu, Y. Sugiyama, C. Hess, B. Büchner, [Phys. Rev. B 78, 205105 \(2008\)](#)
- Field and Temperature Dependence of the Superfluid Density in $\text{LaO}_{1-x}\text{F}_x\text{FeAs}$ Superconductors: A Muon Spin Relaxation Study, H. Luetkens, H.-H. Klauss, Khasanov, A. Amato, Klingeler, I. Hellmann, N. Leps, A. Kondrat, C. Hess, A. Köhler, G. Behr, J. Werner, B. Büchner, [Phys. Rev. Lett. 101, 097009 \(2008\)](#)
- Commensurate Spin Density Wave in LaOFeAs : A Local Probe Study, H.-H. Klauss, H. Luetkens, R. Klingeler, C. Hess, F.J. Litterst, M. Kraken, M.M. Korshunov, I. Eremin, S.-L. Drechsler, R. Khasanov, A. Amato, J. E. Hamann-Borrero, N. Leps, A. Kondrat, G. Behr, J. Werner, B. Büchner, [Phys. Rev. Lett. 101, 077005 \(2008\)](#)
- ^{75}As NMR studies of superconducting $\text{LaO}_{0.9}\text{F}_{0.1}\text{FeAs}$, H.-J. Grafe, D. Paar, G. Lang, N. J. Curro, G. Behr, J. Werner, J. Hamann-Borrero, C. Hess, N. Leps, R. Klingeler, B. Büchner, [Phys. Rev. Lett. 101, 047003 \(2008\)](#)
- Upper critical field, penetration depth and depinning frequency of the novel high-temperature superconductor $\text{LaO}_{0.9}\text{F}_{0.1}\text{FeAs}$ studied by microwave surface impedance, A. Narduzzo, M. S. Grbić, M. Požek, A. Dulčić, D. Paar, A. Kondrat, C. Hess, I. Hellmann, R. Klingeler, J. Werner, A. Köhler, G. Behr, B. Büchner, [Phys. Rev. B 78, 012507 \(2008\)](#)
- ScRe_2O_6 : A new ternary oxide with metallic Re-Re-bonds and a ferromagnetic component above room temperature, D. Mikhailova, H. Ehrenberg, G. Miehe, D. Trots, C. Hess, R. Schneider, H. Fuess, [J. Solid State Chem. 181, 190 \(2008\)](#)

2007

- Linear Temperature Dependence of the Magnetic Heat Conductivity in CaCu_2O_3 , C. Hess, H. ElHaes, A. Waske, B. Büchner, C. Sekar, G. Krabbes, F. Heidrich-Meisner, W. Brenig, [Phys. Rev. Lett. 98, 027201 \(2007\)](#)
- One- and two-triplon spectra of a cuprate ladder, S. Notbohm, P. Ribeiro, B. Lake, D.A. Tennant, K.P. Schmidt, G.S. Uhrig, C. Hess, R. Klingeler, G. Behr, B. Büchner, M. Reehuis, R.I. Bewley, C.D. Frost, P. Manuel, R.S. Eccleston, [Phys. Rev. Lett. 98, 27403 \(2007\)](#)
- Magnetization and specific heat of $\text{TbFe}_3(\text{BO}_3)_4$: Experiment and crystal-field calculations, E.A. Popova, D.V. Volkov, A.N. Vasiliev, A.A. Demidov, N.P. Kolmakova, I.A. Gudim, L.N. Bezmaternykh, N. Tristan, Yu. Skourski, B. Büchner, C. Hess, R. Klingeler, [Phys. Rev. B 75, 224413 \(2007\)](#)
- Heat conduction in low-dimensional quantum magnets, C. Hess, [Eur. Phys. J. - Special Topics 151, 73 \(2007\)](#)
- Thermodynamic properties of $\text{NdFe}_3(\text{BO}_3)_4$, N. Tristan, R. Klingeler, C. Hess, B. Büchner, E. Popova, I.A. Gudim, L.N. Bezmaternykh, [J. Magn. Magn. Mater. 316, e621 \(2007\)](#)

- Magnon-hole scattering in $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$, C. Hess, B. Büchner, [J. Magn. Magn. Mater. 310, e412 \(2007\)](#)
 - The low-dimensional spin magnet CaCu_2O_3 probed by high-field ESR, V. Kataev, U. Schaufuss, M. Goiran, R. Klingeler, C. Sekar, G. Krabbes, N. Tristan, A. Waske, C. Hess, S.-L. Drechsler, B. Büchner, [J. Magn. Magn. Mater. 310, 1251 \(2007\)](#)
 - Thermal conductivity of underdoped $\text{YBa}_2\text{Cu}_3\text{O}_y$, A. Waske, C. Hess, B. Büchner, V. Hinkov, C.T. Lin, [Physica C 460-462, 746 \(2007\)](#)
 - Magnetization of undoped 2-leg $S = 1/2$ spin ladders in $\text{La}_4\text{Sr}_{10}\text{Cu}_{24}\text{O}_{41}$, R. Klingeler, I. Hellmann, P. Ribeiro, C. Hess, B. Büchner, [Physica C 460-462, 464 \(2007\)](#)
 - Spectroscopic investigations on layered sodium cobaltates, T. Kroll, A.A. Aligia, M. Knupfer, J. Geck, C. Hess, T. Schwieger, G. Krabbes, C. Sekar, D.R. Batchelor, H. Berger, G.A. Sawatzky, B. Büchner, [Physica C 460-462, 487 \(2007\)](#)
 - Magnetic and thermal properties of single-crystal $\text{NdFe}_3(\text{BO}_3)_4$, E.A. Popova, N. Tristan, C. Hess, R. Klingeler, B. Büchner, L.N. Bezmaternykh, V.L. Temerov, A.N. Vasiliev, Journal of Experimental and Theoretical Physics 105, 105 (2007)
- 2006**
- X-ray absorption spectroscopy of Na_xCoO_2 layered cobaltates, T. Kroll, M. Knupfer, J. Geck, C. Hess, T. Schwieger, G. Krabbes, C. Sekar, D.R. Batchelor, H. Berger, B. Büchner, [Phys. Rev. B 74, 115123 \(2006\)](#)
 - Magnon heat conductivity and mean free paths in two-leg spin ladders: A model-independent determination, C. Hess, P. Ribeiro, B. Büchner, H. ElHaes, G. Roth, U. Ammerahl, A. Revcolevschi, [Phys. Rev. B 73, 104407 \(2006\)](#)
 - First Scanning Tunneling Spectroscopy on $\text{Bi}_2\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_{10+\delta}$ single crystals, M. Kugler, G. Levy de Castro, E. Giannini, A. Piriou, A.A. Manuel, C. Hess, Ø. Fischer, [J. Phys. Chem. Solids 67, 353 \(2006\)](#)
- 2005**
- Scattering Processes and Magnon Thermal Conductivity in $\text{La}_5\text{Ca}_9\text{Cu}_{24}\text{O}_{41}$, C. Hess, C. Baumann, B. Büchner, [J. Magn. Magn. Mater. 290-291, 322 \(2005\)](#)
 - Heat Transport in Doped SrCuO_2 , P. Ribeiro, C. Hess, P. Reutler, G. Roth, B. Büchner, [J. Magn. Magn. Mater. 290-291, 334 \(2005\)](#)
 - Phonon thermal conductivity in single layered manganites, C. Baumann, C. Hess, P. Reutler, B. Büchner, A. Revcolevschi, [J. Magn. Magn. Mater. 290-291, 9 \(2005\)](#)
 - Phase diagrams of $(\text{La},\text{Y},\text{Sr},\text{Ca})_{14}\text{Cu}_{24}\text{O}_{41}$: Switching between the ladders and the chains, T. Vuletić, T. Ivek, B. Korin-Hamzić, S. Tomić, B. Gorshunov, M. Dressel, C. Hess, B. Büchner, J. Akimitsu, [J. Phys. IV 131, 299 \(2005\)](#)
- 2004**
- Magnon-Hole Scattering and Charge Order in $\text{Sr}_{14-x}\text{Ca}_x\text{Cu}_{24}\text{O}_{41}$, C. Hess, H. ElHaes, B. Büchner, U. Ammerahl, M. Hücker, A. Revcolevschi, [Phys. Rev. Lett. 93, 027005 \(2004\)](#)
 - Thermal conductivity of doped La_2CuO_4 as an example for heat transport by optical phonons in complex materials, C. Hess, B. Büchner, [Eur. Phys. J. B 38, 37 \(2004\)](#)
- 2003**
- Phonon thermal conductivity in doped La_2CuO_4 : relevant scattering mechanisms, C. Hess, B. Büchner, U. Ammerahl, A. Revcolevschi, [Phys. Rev. B 68, 184517 \(2003\)](#)
 - Magnon Heat Transport in Doped La_2CuO_4 , C. Hess, B. Büchner, U. Ammerahl, L. Colonescu, F. Heidrich-Meisner, W. Brenig, A. Revcolevschi, [Phys. Rev. Lett. 90, 197002 \(2003\)](#)
- 2002**
- Anisotropic CE-type orbital correlations in the ferromagnetic metallic phase of $\text{Nd}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$, J. Geck, D. Bruns, C. Hess, R. Klingeler, P. Reutler, M. v. Zimmermann, S.-W. Cheong, B. Büchner, [Phys. Rev. B 66, 184407 \(2002\)](#)
 - Magnon hole scattering in $(\text{Sr},\text{Ca},\text{La})_{14}\text{Cu}_{24}\text{O}_{41}$, C. Hess, U. Ammerahl, C. Baumann, B. Büchner, A. Revcolevschi, [Physica B 312-313, 612 \(2002\)](#)

2001

- Magnon heat transport in $(\text{Sr,Ca,La})_{14}\text{Cu}_{24}\text{O}_{41}$, C. Hess, C. Baumann, U. Ammerahl, B. Büchner, F. Heidrich-Meisner, W. Brenig, A. Revcolevschi, [Phys. Rev. B 64, 184305 \(2001\)](#)

2000

- Thermal and Electronic Transport Properties and Two-Phase Mixtures in $\text{La}_{5/8-x}\text{Pr}_x\text{Ca}_{3/8}\text{MnO}_3$, K-H. Kim, M. Uehara, C. Hess, P.A. Sharma, S.-W. Cheong, [Phys. Rev. Lett. 84, 2961 \(2000\)](#)

1999

- Phonon thermal conductivity and stripe correlations in $\text{La}_{2-x}\text{Sr}_x\text{NiO}_4$ and $\text{Sr}_{1.5}\text{La}_{0.5}\text{MnO}_4$, C. Hess, B. Büchner, M. Hücker, R. Gross, S.-W. Cheong, [Phys. Rev. B 59, R10397 \(1999\)](#)
- Phonon thermal conductivity of stripe ordering $\text{La}_{2-x}\text{Sr}_x\text{NiO}_4$, D. Cassel, C. Hess, B. Büchner, M. Hücker, R. Gross, O. Friedt, S.-W. Cheong, [J. Low Temp. Phys. 117, 1083 \(1999\)](#)

1996

- Excited levels in ^{145}Pm , W. Urban, T. Rzaca-Urban, J.L. Durell, C. Hess, C.J. Pearson, W.R. Phillips, B.J. Varley, W.J. Vermeer, Ch. Vieu and J.S. Dionisio, M. Pautrat, J.C. Bacelar, [Phys. Rev. C 54, 2264 \(1996\)](#)

1995

- Study of the high-spin structure of ^{146}Pm , T. Rzaca-Urban, W. Urban, J.L. Durell, W.R. Phillips, B.J. Varley, C. Hess, C.J. Pearson, W.J. Vermeer, Ch. Vieu, J.S. Dionisio, M. Pautrat, J.C. Bacelar, [Nuclear Physics A 588, 767 \(1995\)](#)
- Study of excited levels in ^{147}Pm , W. Urban, J.L. Durell, W.R. Phillips, B.J. Varley, C. Hess, M.A. Jones, C.J. Pearson, W.J. Vermeer, Ch. Vieu, J.S. Dionisio, M. Pautrat, J.C. Bacelar, [Nuclear Physics A 587, 541 \(1995\)](#)