

Prof. Dr. G. Jakob, publication list scientific journals:

Years: [2025](#), [2024](#), [2023](#), [2022](#), [2021](#), [2020](#),
[2019](#), [2018](#), [2017](#), [2016](#), [2015](#), [2014](#), [2013](#), [2012](#), [2011](#), [2010](#),
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- 290) **Depth Profiling of Oxygen Migration in Ta/HfO₂ Stacks during Ionic Liquid Gating**
 Beatrice Bednarz, Martin Wortmann, Olga Kuschel, Fabian Kammerbauer, Mathias Kläui,
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- 289) **Surface-Localized Magnetic Order in RuO₂ Thin Films Revealed by Low-Energy Muon Probes,**
 Akashdeep Akashdeep, Sachin Krishnia, Jae-Hyun Ha, Siyeon An, Maik Gaerner, Thomas Prokscha, Andreas Suter, Gianluca Janka, Günter Reiss, Timo Kuschel, Dong-Soo Han, Angelo Di Bernardo, Zaher Salman, Gerhard Jakob, and Mathias Kläui,
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- 288) **Magnetic circular dichroism in core-level X-ray photoelectron spectroscopy of altermagnetic RuO₂ films**
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- 287) **Angle-dependent magnetoresistance induced by interface-generated spin current in RuO₂/permalloy heterostructures**
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- 286) **Oxidation state depth profiling by self-consistent fitting of all emission peaks in the X-ray photoelectron spectrum of SnTe**
 Martin Wortmann, Beatrice Bednarz, Negin Beryani Nezafat, Klaus Viertel, Olga Kuschel, Jan Schmalhorst, Inga Ennen, Maik Gärner, Natalie Frese, Gerhard Jakob, Joachim Wollschläger, Gabi Schierring, Andreas Hütten, Timo Kuschel,
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- 285) **Identification of Orbital Pumping from Spin Pumping and Rectification Effects**
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- 284) **Temperature dependent study of the spin dynamics of coupled Y₃Fe₅O₁₂/Gd₃Fe₅O₁₂/Pt trilayers**
 Felix Fuhrmann, Sven Becker, Akashdeep Akashdeep, Gerhard Jakob, Qianqian Lan, Nan Wang, Rafal E. Dunin-Borkowski, Romain Lebrun, Mathias Weiler, and Mathias Kläui,
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- 283) **Revealing the Altermagnetism in Hematite via XMCD Imaging and Anomalous Hall Electrical Transport**
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- 282) **Noise-based local learning using stochastic magnetic tunnel junctions**
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- 281) **Distortion-free sampling of ultrabroadband terahertz electric fields by interfacial spin accumulation**
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- 280) **Non-reciprocity in magnon mediated charge-spin-orbital current interconversion**
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- 279) **Harnessing Orbital Hall Effect in Spin-Orbit Torque MRAM Devices**
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- 278) **Inductive detection of inverse spin-orbit torques in magnetic heterostructures**
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- 277) **Identifying the Origin of Thermal Modulation of Exchange Bias in MnPS₃/Fe₃GeTe₂ van der Waals Heterostructures**
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- 276) **(Sub-)Picosecond Surface Correlations of Femtosecond Laser Excited Al-Coated Multilayers Observed by Grazing-Incidence X-ray Scattering**
 Lisa Randolph, Mohammadreza Banjafar, Toshinori Yabuuchi, Carsten Baetz, Michael Bussmann, Nicholas P. Dover, Lingen Huang, Yuichi Inubushi, Gerhard Jakob, Mathias Kläui, Dmitriy Ksenzov, Mikako Makita, Kohei Miyanishi, Mamiko Nishiuchi, Özgül Öztürk, Michael Paulus, Alexander Pelka, Thomas R. Preston, Jan-Patrick Schwinkendorf, Keiichi Sueda, Tadashi Togashi, Thomas E. Cowan, Thomas Kluge, Christian Gutt, and Motoaki Nakatsutsumi, *Nanomaterials* **14**, 1050 (2024), [doi: 10.3390/nano14121050](https://doi.org/10.3390/nano14121050)

- 275) **Stabilizing perpendicular magnetic anisotropy with strong exchange bias in PtMn/Co by magneto-ionics**
Beatrice Bednarz, Maria-Andromachi Syskaki, Rohit Pachat, Leon Prädel, Martin Wortmann, Timo Kuschel, Shimpei Ono, Mathias Kläui, Liza Herrera Diez, and Gerhard Jakob, Appl. Phys. Lett. **124**, 232403 (2024), [doi: 10.1063/5.0213731](https://doi.org/10.1063/5.0213731)
- 274) **Stable π -Extended Thio[7]helicene-based Diradical with Predominant Through-Space Spin-Spin Coupling**
Hao Wu, Hiroki Hanayama, Max Coehlo, Yanwei, Gu, Ze-Hua Wu, Satoshi Takebayashi, Gerhard Jakob, Serhii Vasylevskyi, Dieter Schollmeyer, Mathias Kläui, Gregory Pieters, Martin Baumgarten, Klaus Müllen, Akimitsu Narita, and Zijie Qiu, J. Am. Chem. Soc. **146**, 7480 (2024), [doi: 10.1021/jacs.3c12840](https://doi.org/10.1021/jacs.3c12840)
- 273) **Magneto-ionic modulation of the interlayer exchange interaction in synthetic antiferromagnets**
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- 272) **Observation of time-reversal symmetry breaking in the band structure of altermagnetic RuO₂**
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- 271) **Electronic Transparency of Internal Interfaces in Metallic Nanostructures Comprising Light, Heavy and Ferromagnetic Metals Measured by Terahertz Spectroscopy**
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- 270) **Electrical coupling of superparamagnetic tunnel junctions mediated by spin-transfer-torques**
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- 269) **Optimization of Permalloy properties for magnetic field sensors using He⁺ irradiation**
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Sabri Koraltan, Christin Schmitt, Florian Bruckner, Claas Abert, Klemens Prügl, Michael Kirsch, Rahul Gupta, Sebastian Zeilinger, Joshua M. Salazar-Mejía, Milan Agrawal, Johannes Güttinger, Armin Satz, Gerhard Jakob, Mathias Kläui, and Dieter Suess, Phys. Rev. Applied **20**, 044079 (2023), [doi: 10.1103/PhysRevApplied.20.044079](https://doi.org/10.1103/PhysRevApplied.20.044079)

- 267) **Tailoring Magnetic Properties and Suppressing Anisotropy in Permalloy Films by Deposition in a Rotating Magnetic Field,**
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- 265) **Fiber-tip spintronic terahertz emitters**
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- 262) **Thermally induced all-optical ferromagnetic resonance in thin YIG films**
Eva Schmoranzarová, Jozef Kimák, Richard Schlitz, Sebastian T.B. Goennenwein, Dominik Kriegner, Helena Reichlová, Zbynek Sobán, Gerhard Jakob, Er-Jia Guo, Mathias Kläui, Markus Münzenberg, Petr Nemec, and Tomáš Ostatnický,
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- 260) **Temperature Dependence of the Hyperfine Magnetic Field at Fe Sites in Ba-Doped BiFeO₃ Thin Films Studied by Emission Mössbauer Spectroscopy**
Juliana Heiniger-Schell, Krish Bharuth-Ram, Kimara Naicker, Vusumuzi Masondo, Thien Thanh Dang, Marianela Escobar, Carlos Díaz-Guerra, Georg Marschick, Hilary Masenda, Haraldur P. Gunnlaugsson, Bing Qi, Iraultza Unzueta, Sveinn Ólafsson, Rajdeep Adhikari, Gerrard Peters, Deena Naidoo, Peter Schaaf, Dmitry Zyabkin, Karl Johnston, Sven Becker, and Gerhard Jakob,
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- 259) **Broadband Spintronic Terahertz Source with Peak Electric Fields Exceeding 1.5 MV/cm**
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- 257) **Atomic Force Manipulation of Single Magnetic Nanoparticles for Spin-Based Electronics**
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- 255) **Key points in the determination of the interfacial Dzyaloshinskii-Moriya interaction from asymmetric bubble domain expansion**
A. Magni, G. Carlotti, A. Casiraghi, E. Darwin, G. Durin, L. Herrera Diez, B.J. Hickey, A. Huxtable, C.Y. Hwang, G. Jakob, C. Kim, M. Kläui, J. Langer, C.H. Marrows, H.T. Nembach, D. Ravelosona, G.A. Riley, J.M. Shaw, V. Sokalski, S. Tacchi, and M. Kuepferling,
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- 254) **Anisotropic long-range spin transport in canted antiferromagnetic orthoferrite YFeO₃**
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- 253) **Giant quadratic magneto-optical response of thin Y₃Fe₅O₁₂ films for sensitive magnetometry experiments**
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- 252) **Nanoscale subsurface dynamics of solids upon high-intensity laser irradiation observed by femtosecond grazing-incidence x-ray scattering**
Lisa Randolph, Mohammadreza Banjafar, Thomas R. Preston, Toshinori Yabuuchi, Mikako Makita, Nicholas P. Dover, Christian Rödel, Sebastian Göde, Yuichi Inubushi, Gerhard Jakob, Johannes Kaa, Akira Kon, James K. Koga, Dmitriy Ksenzov, Takeshi Matsuoka, Mamiko Nishiuchi, Michael Paulus, Frederic Schon, Keiichi Sueda, Yasuhiko Sentoku, Tadashi Togashi, Michael Bussmann, Thomas E. Cowan, Mathias Kläui, Carsten Fortmann-Grote, Lingen Huang, Adrian P. Mancuso, Thomas Kluge, Christian Gutt, and Motoaki Nakatsutsumi
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- 251) **Average power scaling of THz spintronic emitters efficiently cooled in reflection geometry**
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- 250) **Terahertz-wave decoding of femtosecond extreme-ultraviolet light pulses**
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- 246) **Anomalous Hall effect in magnetic insulator heterostructures: Contributions from spin-Hall and magnetic-proximity effects**
Shilei Ding, Zhongyu Liang, Chao Yun, Rui Wu, Mingzhu Xue, Zhongchong Lin, Andrew Ross, Sven Becker, Wenyun Yang, Xiaobai Ma, Dongfeng Chen, Kai Sun, Gerhard Jakob, Mathias Kläui, and Jinbo Yang,
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- 245) **Imprinting the complex dielectric permittivity of liquids into the spintronic terahertz emissions**
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- 244) **Assembly of iron oxide nanosheets at the air–water interface by leucine–histidine peptides**
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- 243) **Tailoring large magnetoresistance in Dirac semimetal SrIrO₃ films**
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