

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

Years: [2023](#), [2022](#), [2021](#), [2020](#),
[2019](#), [2018](#), [2017](#), [2016](#), [2015](#), [2014](#), [2013](#), [2012](#), [2011](#), [2010](#),
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- 277) **Identifying the Origin of Thermal Modulation of Exchange Bias in MnPS₃/Fe₃GeTe₂ van der Waals Heterostructures**
Aravind Puthirath Balan, Aditya Kumar, Patrick Reiser, Joseph Vimal Vas, Thibaud Denneulin, Khoa Dang Lee, Tom G. Saunderson, Märta Tschudin, Clement Pellet-Mary, Debarghya Dutta, Carolin Schrader, Tanja Scholz, Jaco Geuchies, Shuai Fu, Hai Wang, Alberta Bonanni, Bettina V. Lotsch, Ulrich Nowak, Gerhard Jakob, Jacob Gayles, Andras Kovacs, Rafal E. Dunin-Borkowski, Patrick Maletinsky, and Mathias Kläui,
Adv. Mater. **2024**, 2403685, [doi: 10.1002/adma.202403685](https://doi.org/10.1002/adma.202403685)
- 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,
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- 275) **Stabilizing perpendicular magnetic anisotropy with strong exchange bias in PtMn/Co by magneto-ionics**
Beatrice Bednarz, Maria-Andromachi Syskaki, Rohit Pachat, Leon Prädell, Martin Wortmann, Timo Kuschel, Shimpei Ono, Mathias Kläui, Liza Herrera Diez, and Gerhard Jakob,
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- 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,
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- 273) **Magneto-ionic modulation of the interlayer exchange interaction in synthetic antiferromagnets**
Maria-Andromachi Syskaki, Takaaki Dohi, Sergei Olegovich Filnov, Sergey Alexeyevich Kasatkov, Beatrice Bednarz, Alevtina Smekhova, Florian Kronast, Mona Bhukta, Rohit Pachat, Johannes Wilhelmus van der Jagt, Shimpei Ono, Dafiné Ravelosona, Jürgen Langer, Mathias Kläui, Liza Herrera Diez, and Gerhard Jakob,
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- 272) **Observation of time-reversal symmetry breaking in the band structure of altermagnetic RuO₂**
O. Fedchenko, J. Minar, A. Akashdeep, S. W. D'Souza, D. Vasilyev, O. Tkach, L. Odenbreit, Q. L. Nguyen, D. Kutnyakhov, N. Wind, L. Wenthous, M. Scholz, K. Rossnagel, M. Hoesch, M. Aeschlimann, B. Stadtmueller, M. Kläui, G. Schoenhense, G. Jakob, T. Jungwirth, L. Smejkal, J. Sinova, H. J. Elmers
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- 271) **Electronic Transparency of Internal Interfaces in Metallic Nanostructures Comprising Light, Heavy and Ferromagnetic Metals Measured by Terahertz Spectroscopy**
Nicolas S. Beermann, Savio Fabretti, Hassan A. Hafez, Maria-Andromachi Syskaki, Iryna Kononenko, Gerhard Jakob, Mathias Kläui, and Dmitry Turchinovich,
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- 270) **Electrical coupling of superparamagnetic tunnel junctions mediated by spin-transfer-torques**
Leo Schnitzspan, Mathias Kläui, and Gerhard Jakob,
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- 269) **Optimization of Permalloy properties for magnetic field sensors using He⁺ irradiation**
Giovanni Masciocchi, Johannes Wilhelmus van der Jagt, Maria-Andromachi Syskaki, Jürgen Langer, Gerhard Jakob, Jeffrey McCord, Benjamin Borie, Andreas Kehlberger, Dafine Ravelosona, Mathias Kläui,
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- 268) **Single device offset-free magnetic field sensing principle with tunable sensitivity and linear range based on spin-orbit-torques**
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- 267) **Tailoring Magnetic Properties and Suppressing Anisotropy in Permalloy Films by Deposition in a Rotating Magnetic Field,**
Olga Lozhkina, Fabian Kammerbauer, Maria-Andromachi Syskaki, Aravind Puthirath Balan, Pascal Krautscheid, Mehran Vafae Khanjani, Jan Kubik, Stephen O'Brien, Robert M. Reeve, Gerhard Jakob, Robert Frömter, and Mathias Kläui,
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- 266) **Enhanced thermally-activated skyrmion diffusion in synthetic antiferromagnetic systems with tunable effective topological charge**
Takaaki Dohi, Markus Weihenhofer, Nico Kerber, Fabian Kammerbauer, Yuqing Ge, Klaus Raab, Jakub Zázvorka, Maria-Andromachi Syskaki, Aga Shahee, Moritz Ruhwedel, Tobias Böttcher, Philipp Pirro, Gerhard Jakob, Ulrich Nowak, and Mathias Kläui,
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- 265) **Fiber-tip spintronic terahertz emitters**
F. Paries, N. Tiercelin, G. Lezier, M. Vanwollegem, F. Selz, M.-A. Syskaki, F. Kammerbauer, G. Jakob, M. Jourdan, M. Kläui, Z. Kaspar, T. Kampfrath, T.S. Seifert, G. v. Freyman, and D. Molter,
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- 264) **Nanosecond True Random Number Generation with Superparamagnetic Tunnel Junctions - Identification of Joule Heating and Spin-Transfer-Torque effects**
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- 263) **Suppression of the spin waves non-reciprocity due to interfacial Dzyaloshinskii–Moriya interaction by lateral confinement in magnetic nanostructures**
S. Tacchi, R. Silvani, M. Kuepferling, A. Fernández Scarioni, S. Sievers, H.W. Schumacher, E. Darwin, M.-A. Syskaki, G. Jakob, M. Kläui, and G. Carlotti,
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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 Nemeč, and Tomáš Ostatnický,
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- 261) **Detection of long-range orbital-Hall torques**
Arnab Bose, Fabian Kammerbauer, Rahul Gupta, Dongwook Go, Yuriy Mokrousov, Gerhard Jakob, and Mathias Kläui
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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**
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- 259) **Broadband Spintronic Terahertz Source with Peak Electric Fields Exceeding 1.5 MV/cm**
R. Rouzegar, A.L. Chekhov, Y. Behovits, B.R. Serrano, M.A. Syskaki, C.H. Lambert, D. Engel, U. Martens, M. Münzenberg, M. Wolf, G. Jakob, M. Kläui, T.S. Seifert, and T. Kampfrath
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- 258) **Optimised Spintronic Emitters of Terahertz Radiation for Time Domain Spectroscopy**
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- 257) **Atomic Force Manipulation of Single Magnetic Nanoparticles for Spin-Based Electronics**
Paul Burger, Gyanendra Singh, Christer Johansson, Carlos Moya, Gilles Bruylants, Gerhard Jakob, and Alexei Kalaboukhov,
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- 256) **Control of magnetoelastic coupling in Ni/Fe multilayers using He⁺ ion irradiation**
Giovanni Masciocchi, Johannes van der Jagt, Maria-Andromachi Syskaki, Alessio Lamperti, Niklas Wolff, Andriy Lotnyk, Juergen Langer, Lorenz Kienle, Gerhard Jakob, Benjamin Borie, Andreas Kehlberger, Dafine Ravelosona, and Mathias Kläui,
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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**
Shubhankar Das, A. Ross, X. X. Ma, S. Becker, C. Schmitt, F. van Duijn, F. Fuhrmann, M.-A. Syskaki, U. Ebels, V. Baltz, A.-L. Barra, H. Y. Chen, G. Jakob, S. X. Cao, J. Sinova, O. Gomonay, R. Lebrun, M. Kläui,
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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 Busmann, 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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- 249) **Transition of laser-induced terahertz spin currents from torque- to conduction-electron-mediated transport**
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- 248) **Observation of the Orbital Rashba-Edelstein Magnetoresistance**
Shilei Ding, Zhongyu Liang, Dongwook Go, Chao Yun, Mingzhu Xue, Zhou Liu, Sven Becker, Wenyun Yang, Honglin Du, Changsheng Wang, Yingchang Yang, Gerhard Jakob, Mathias Kläui, Yuriy Mokrousov, and Jinbo Yang,
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- 247) **Tuning spin-orbit torques across the phase transition in VO₂/NiFe heterostructures**
Jun-young Kim, Joel Cramer, Kyujoon Lee, Dong-Soo Han, Dongwook Go, Pavel Salev, Pavel N. Lapa, Nicolas M. Vargas, Ivan K. Schuller, Yuriy Mokrousov, Gerhard Jakob, and Mathias Kläui,
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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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- 242) **Magnetic coupling in Y₃Fe₅O₁₂/Gd₃Fe₅O₁₂ heterostructures**
S. Becker, Z. Ren, F. Fuhrmann, A. Ross, S. Lord, S. Ding, R. Wu, J. Yang, J. Miao, M. Kläui, and G. Jakob
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- 241) **Modulating the polarization of broadband terahertz pulses from a spintronic emitter at rates up to 10 kHz**
O. Gueckstock, L. Nadvornik, T.S. Seifert, M. Borchert, G. Jakob, G. Woltersdorf, M. Kläui, M. Wolf, and T. Kampfrath
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- 240) **Heisenberg Exchange and Dzyaloshinskii-Moriya Interaction in Ultrathin CoFeB Single and Multilayers**
Tobias Böttcher, Kyujoon Lee, Frank Heussner, Samridh Jaiswal, Gerhard Jakob, Mathias Kläui, Burkard Hillebrands, Thomas Brächer, Philipp Pirro
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- 239) **Broadband Terahertz Probes of Anisotropic Magnetoresistance Disentangle Extrinsic and Intrinsic Contributions**
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- 229) **Spin-orbit torque driven multi-level switching in He⁺ irradiated W-CoFeB-MgO Hall bars with perpendicular anisotropy**
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