

Publications
Ingrid Mertig
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2024

345. K. Özdoğan, I. Maznichenko, S. Ostanin, E. Şaşıoğlu, A. Ernst, I. Mertig, and I. Galanakis
Corrigendum: high spin polarization in all-3d-metallic Heusler compounds: the case of Fe_2CrZ and Co_2CrZ ($Z = Sc, Ti, V$) (2019 J. Phys: D. Appl. Phys.52205003)
[J. Phys. D: Appl. Phys. **57**, 049501 \(2024\)](#)

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344. S. Leiva-Montecinos, J. Henk, I. Mertig, and A. Johansson
Spin and orbital Edelstein effect in a bilayer system with Rashba interaction
[Phys. Rev. Research **5**, 043294 \(2023\)](#)
343. E. Gürbüz, M. Tas, E. Şaşıoğlu, I. Mertig, B. Sanyal, and I. Galanakis
First-principles prediction of energy bandgaps in 18-valence electron semiconducting half-Heusler compounds: Exploring the role of exchange and correlation
[J. Appl. Phys. **134**, 205703 \(2023\)](#)
342. S. Mallik, B. Göbel, H. Witt, L. M. Vicente-Arche, S. Varotto, J. Bréhin, G. Ménard, G. Saiz, D. Tamsaout, A. F. Santander-Syro, F. Fortuna, F. Bertran, P. Le Fèvre, J. Rault, I. Boverter, I. Mertig, A. Barthélémy, N. Bergeal, A. Johansson, and M. Bibes
Electronic band structure of superconducting $KTaO_3$ (111) interfaces
[APL Mater. **11**, 121108 \(2023\)](#)
341. O. Busch, F. Ziolkowski, I. Mertig, and J. Henk
Ultrafast dynamics of electrons excited by femtosecond laser pulses: Spin polarization and spin-polarized currents
[Phys. Rev. B **108**, 184401 \(2023\)](#)
340. I. Ribeiro de Assis, I. Mertig, and B. Göbel
Skyrmion motion in magnetic anisotropy gradients: Acceleration caused by deformation
[Phys. Rev. B **108**, 144438 \(2023\)](#)
339. O. Busch, I. Mertig, and B. Göbel
Orbital Hall effect and orbital edge states caused by s electrons
[Phys. Rev. Research **5**, 043052 \(2023\)](#)
338. N. Li, R. R. Neumann, S. K. Guang, Q. Huang, J. Liu, K. Xia, X. Y. Yue, Y. Sun, Y. Y. Wang, Q. J. Li, Y. Jiang, J. Fang, Z. Jiang, X. Zhao, A. Mook, J. Henk, I. Mertig, H. D. Zhou, and X. F. Sun
Magnon-polaron driven thermal Hall effect in a Heisenberg-Kitaev antiferromagnet
[Phys. Rev. B **108**, L140402 \(2023\)](#)
337. O. Busch, F. Ziolkowski, I. Mertig, and J. Henk
Ultrafast dynamics of orbital angular momentum of electrons induced by femtosecond laser pulses: Generation and transfer across interfaces
[Phys. Rev. B **108**, 104408 \(2023\)](#)
336. B. K. Hazra, B. Pal, J.-C. Jeon, R. R. Neumann, B. Göbel, B. Grover, H. Deniz, A. Styevoyedov, H. Meyerheim, I. Mertig, S.-H. Yang, and S. S. P. Parkin
Generation of out-of-plane polarized spin current by spin swapping
[Nat. Commun. **14**, 4549 \(2023\)](#)
335. I. V. Maznichenko, P. Buczek, I. Mertig, and S. Ostanin
Spin textures induced in n-doped solid electrolytes
[J. Phys. D: Appl. Phys. **56**, 405305 \(2023\)](#)

334. E. Gürbüz, S. Ghosh, E. Şaşıoğlu, I. Galanakis, I. Mertig, and B. Sanyal
Spin-polarized two-dimensional electron/hole gas at the interface of nonmagnetic semiconducting half-Heusler compounds: Modified Slater-Pauling rule for half-metallicity at the interface
[Phys. Rev. Mater. 7, 054405 \(2023\)](#)
333. B. H. Rimmler, B. K. Hazra, B. Pal, K. Mohseni, J. M. Taylor, A. Bedoya-Pinto, H. Deniz, M. Tangi, I. Kostanovskiy, C. Luo, R. R. Neumann, A. Ernst, F. Radu, I. Mertig, H. L. Meyerheim, and S. S. P. Parkin
Atomic Displacements Enabling the Observation of the Anomalous Hall Effect in a Non-Collinear Antiferromagnet
[Adv. Mater. 35, 2209616 \(2023\)](#)
332. D.-S. Park, A. D. Rata, R. T. Dahm, K. Chu, Y. Gan, I. Maznichenko, S. Ostanin, F. Trier, H. Baik, W. S. Choi, C.-J. Choi, Y. H. Kim, G. J. Rees, H. P. Gíslason, P. A. Buczek, I. Mertig, M. A. Ionescu, A. Ernst, K. Dörr, P. Muralt, and N. Pryds
Controlled Electronic and Magnetic Landscape in Self-Assembled Complex Oxide Heterostructures
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[Neuromorph. Comput. Eng. 3, 014012 \(2023\)](#)
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Theoretical Prediction of Semiconductor-Free Negative Differential Resistance Tunnel Diodes with High Peak-to-Valley Current Ratios Based on Two-Dimensional Cold Metals
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[Nat. Commun. 13, 6165 \(2022\)](#)
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Ultrafast spin transport and control of spin current pulse shape in metallic multilayers
[Phys. Rev. B 106, 104417 \(2022\)](#)
325. A. D. Rata, J. Herrero-Martin, I. V. Maznichenko, F. M. Chiabrera, R. T. Dahm, S. Ostanin, D. Lee, B. Jalan, P. Buczek, I. Mertig, A. Ernst, A. M. Ionescu, K. Dörr, N. Pryds, and D.-S. Park
Defect-induced magnetism in homoepitaxial $SrTiO_3$
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Ab Initio Study of Magnetic Tunnel Junctions Based on Half-Metallic and Spin-Gapless Semiconducting Heusler Compounds: Reconfigurable Diode and Inverse Tunnel-Magnetoresistance Effect
[Phys. Rev. Appl. **18**, 034024 \(2022\)](#)
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321. I. V. Maznichenko, P. Buczek, I. Mertig, and S. Ostanin
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Externally controlled and switchable two-dimensional electron gas at the Rashba interface between ferroelectrics and heavy d metals
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Spin Hall effect in noncollinear kagome antiferromagnets
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