Stefan Mathias

List of Publications by Year
in descending order

73 papers	3,660 citations	172457 29 h-index	128289 60 g-index
75 all docs	75 docs citations	75 times ranked	3912 citing authors

#	Article	IF	Citations
1	Multidimensional multiphoton momentum microscopy of the anisotropic Ag(110) surface. Physical Review B, 2022, 105, .	3.2	4
2	Far-from-Equilibrium Electronâ€“Phonon Interactions in Optically Excited Graphene. Nano Letters, 2022, 22, 4897-4904.	9.1	10
3	Time-resolved Photoelectron Momentum Microscopy using a 1 MHz High-Harmonic Generation Beamline. , 2021, , .		0
4	Ultrafast element-resolved magneto-optics using a fiber-laser-driven extreme ultraviolet light source. Review of Scientific Instruments, 2021, 92, 065107.	1.3	13
5	Orbital-order phase transition in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Pr</mml:mi><mml:mrow><mml:mn>1</m probed by photovoltaics. Physical Review B, 2021, 103, .	3.2	5
6	Momentum and energy dissipation of hot electrons in a Pb/Ag(111) quantum well system. Physical Review B, 2021, 104, .	3.2	2
7	Ultrafast Charge-Transfer Exciton Dynamics in C₆₀ Thin Films. Journal of Physical Chemistry C, 2020, 124, 23579-23587.	3.1	11
8	Electromagnetic dressing of the electron energy spectrum of Au(111) at high momenta. Physical Review B, 2020, 102, .	3.2	22
9	Time-resolved momentum microscopy with a 1 MHz high-harmonic extreme ultraviolet beamline. Review of Scientific Instruments, 2020, 91, 063905.	1.3	41
10	Ultrafast optically induced spin transfer in ferromagnetic alloys. Science Advances, 2020, 6, eaay8717.	10.3	93
11	Ultrafast magnetization dynamics of Mn-doped L10 FePt with spatial inhomogeneity. Journal of Magnetism and Magnetic Materials, 2020, 502, 166477.	2.3	1
12	Direct lightâ€“induced spin transfer between different elements in a spintronic Heusler material via femtosecond laser excitation. Science Advances, 2020, 6, eaaz1100.	10.3	47
13	Efficient orbital imaging based on ultrafast momentum microscopy and sparsity-driven phase retrieval. New Journal of Physics, 2020, 22, 063012.	2.9	27
14	Efficiency of ultrafast optically induced spin transfer in Heusler compounds. Physical Review Research, 2020, 2, .	3.6	29
15	Aperiodically ordered nano-graphene on the quasicrystalline substrate. New Journal of Physics, 2020, 22, 093056.	2.9	2
16	A case study for the formation of stanene on a metal surface. Communications Physics, 2019, 2, .	5.3	30
17	Strong modification of the transport level alignment in organic materials after optical excitation. Nature Communications, 2019, 10, 1470.	12.8	27
18	Development of an analytical simulation framework for angle-resolved photoemission spectra. Physical Review Materials, 2019, 3, .	2.4	0

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19	Structure and electronic properties of the (3Ã—3)R30â˘SnAu2/Au(111) surface alloy. Physical Review B, 2018, 98, .	3.2	14
20	Induced versus intrinsic magnetic moments in ultrafast magnetization dynamics. Physical Review B, 2018, 98, .	3.2	24
21	Energy enhancement of the target surface electron by using a 200 TW sub-picosecond laser. Optics Letters, 2018, 43, 3909.	3.3	1
22	Band structure evolution during the ultrafast ferromagnetic-paramagnetic phase transition in cobalt. Science Advances, 2017, 3, e1602094.	10.3	119
23	Revealing the subfemtosecond dynamics of orbital angular momentum in nanoplasmonic vortices. Science, 2017, 355, 1187-1191.	12.6	217
24	Speed and efficiency of femtosecond spin current injection into a nonmagnetic material. Physical Review B, 2017, 96, .	3.2	52
25	Distinguishing attosecond electronâ€"electron scattering and screening in transition metals. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E5300-E5307.	7.1	55
26	Ultrafast magnetization dynamics in Nickel: impact of pump photon energy. Journal of Physics Condensed Matter, 2017, 29, 244002.	1.8	26
27	Nanoscale magnetic imaging using circularly polarized high-harmonic radiation. Science Advances, 2017, 3, eaao4641.	10.3	85
28	Heisenberg vs. Stoner: Probing the Microscopic Picture of Ultrafast Demagnetization using High Harmonics. , 2017, , .		0
29	Nanoscale Imaging of Magnetic Domains using a High-Harmonic Source. , 2017, , .		1
30	Spin-resolved photoelectron spectroscopy using femtosecond extreme ultraviolet light pulses from high-order harmonic generation. Review of Scientific Instruments, 2016, 87, 043903.	1.3	28
31	Stoner versus Heisenberg: Ultrafast exchange reduction and magnon generation during laser-induced demagnetization. Physical Review B, 2016, 94, .	3.2	72
32	Normal-Incidence PEEM Imaging of Propagating Modes in a Plasmonic Nanocircuit. Nano Letters, 2016, 16, 6832-6837.	9.1	28
33	Self-amplified photo-induced gap quenching in a correlated electron material. Nature Communications, 2016, 7, 12902.	12.8	50
34	Heisenberg vs. Stoner: Magnon Generation and Exchange Reduction during Ultrafast Demagnetization. , 2016, , .		0
35	Controlling the electronic structure of graphene using surface-adsorbate interactions. Physical Review B, 2015, 92, .	3.2	8
36	Topological states on the gold surface. Nature Communications, 2015, 6, 10167.	12.8	148

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37	Controlling the Spin Texture of Topological Insulators by Rational Design of Organic Molecules. Nano Letters, 2015, 15, 6022-6029.	9.1	37
38	Spin structure of Rashba-split electronic states of Bi overlayers on Cu(1 1 1). Journal of Electron Spectroscopy and Related Phenomena, 2015, 201, 47-52.	1.7	3
39	Electron Lifetimes in a 2D Electron-Gas with Rashba SO-Coupling: Screening Properties. Springer Proceedings in Physics, 2015, , 175-178.	0.2	0
40	Kerr and Faraday microscope for space- and time-resolved studies. European Physical Journal B, 2014, 87, 1.	1.5	1
41	Time- and angle-resolved photoemission spectroscopy with optimized high-harmonic pulses using frequency-doubled Ti:Sapphire lasers. Journal of Electron Spectroscopy and Related Phenomena, 2014, 195, 231-236.	1.7	95
42	Studying Ultrafast Magnetization Dynamics with Ultrafast Extreme Ultraviolet Light. , 2014, , .		0
43	Spin-dependent trapping of electrons atÂspinterfaces. Nature Physics, 2013, 9, 242-247.	16.7	147
44	Ultrafast element-specific magnetization dynamics of complex magnetic materials on a table-top. Journal of Electron Spectroscopy and Related Phenomena, 2013, 189, 164-170.	1.7	40
45	Ultrafast Material Science Probed Using Coherent X-ray Pulses from High-Harmonic Generation. , 2013, , 149-175.		2
46	Controlling the Competition between Optically Induced Ultrafast Spin-Flip Scattering and Spin Transport in Magnetic Multilayers. Physical Review Letters, 2013, 110, 197201.	7.8	218
47	Organische Spinventile. Physik in Unserer Zeit, 2013, 44, 111-112.	0.0	1
48	Reply to â€œComment on â€˜Ultrafast Demagnetization Measurements Using Extreme Ultraviolet Light: Comparison of Electronic and Magnetic Contributionsâ€™ â€. Physical Review X, 2013, 3, .	8.9	0
49	Orbital angular momentum structure of an unoccupied spin-split quantum-well state in Pb/Cu(111). Physical Review B, 2013, 87, .	3.2	11
50	Ultrafast electron dynamics in a metallic quantum well nanofilm with spin splitting. Physical Review B, 2013, 88, .	3.2	7
51	Ultrafast Demagnetization Measurements Using Extreme Ultraviolet Light: Comparison of Electronic and Magnetic Contributions. Physical Review X, 2012, 2, .	8.9	88
52	Probing the timescale of the exchange interaction in a ferromagnetic alloy. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 4792-4797.	7.1	210
53	Ultrafast magnetization enhancement in metallic multilayers driven by superdiffusive spin current. Nature Communications, 2012, 3, 1037.	12.8	324
54	Collapse of long-range charge order tracked by time-resolved photoemission at high momenta. Nature, 2011, 471, 490-493.	27.8	406

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55	Ultrafast Electron Dynamics in a Pb/Cu(111) Quantum-Well System. , 2010, , .		0
56	Evaporation temperature-tuned physical vapor deposition growth engineering of one-dimensional non-Fermi liquid tetrathiofulvalene tetracyanoquinodimethane thin films. Applied Physics Letters, 2010, 97, 111906.	3.3	10
57	Band structure dependence of hot-electron lifetimes in a Pb/Cu(111) quantum-well system. Physical Review B, 2010, 81, .	3.2	33
58	Spectroscopy and population decay of a van der Waals gap state in layered<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>TiSe</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:ms Physical Review B, 2010, 82, .	3.2	5
59	Quantum-Well-Induced Giant Spin-Orbit Splitting. Physical Review Letters, 2010, 104, 066802.	7.8	92
60	Tailoring the Spin Functionality of a Hybrid Metal-Organic Interface by Means of Alkali-Metal Doping. Physical Review Letters, 2010, 104, 217602.	7.8	39
61	Ultrafast, Element-Specific, Demagnetization Dynamics Probed Using Coherent High Harmonic Beams. , 2010, , .		0
62	Ultrafast, Element-Specific, Demagnetization Dynamics Probed using Coherent High Harmonic Beams. , 2010, , .		0
63	Probing adsorbate dynamics with chirped laser pulses in a single-pulse scheme. Physical Review B, 2010, 82, .	3.2	0
64	Quantum Oscillations in Coupled Two-Dimensional Electron Systems. Physical Review Letters, 2009, 103, 026802.	7.8	18
65	Time and angle resolved photoemission spectroscopy using femtosecond visible and high-harmonic light. Journal of Physics: Conference Series, 2009, 148, 012042.	0.4	12
66	Ultrafast Demagnetization Dynamics at the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>M</mml:mi></mml:math>Edges of Magnetic Elements Observed Using a Tabletop High-Harmonic Soft X-Ray Source. Physical Review Letters, 2009, 103, 257402.	7.8	197
67	The nature of a nonlinear excitation pathway from the Shockley surface state as probed by chirped pulse two photon photoemission. New Journal of Physics, 2009, 11, 013016.	2.9	7
68	Direct Measurement of Core-Level Relaxation Dynamics on a Surface-Adsorbate System. Physical Review Letters, 2008, 101, 046101.	7.8	88
69	Lifetime of an adsorbate excitation modified by a tunable two-dimensional substrate. Physical Review B, 2008, 78, .	3.2	12
70	Angle-resolved photoemission spectroscopy with a femtosecond high harmonic light source using a two-dimensional imaging electron analyzer. Review of Scientific Instruments, 2007, 78, 083105.	1.3	83
71	Morphological modifications of Ag/Cu(111) probed by photoemission spectroscopy of quantum well states and the Shockley surface state. Applied Physics A: Materials Science and Processing, 2006, 82, 439-445.	2.3	23
72	Space charge effects in photoemission with a low repetition, high intensity femtosecond laser source. Journal of Applied Physics, 2006, 100, 024912.	2.5	116

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73	Quantum-Well Wave-Function Localization and the Electron-Phonon Interaction in Thin Ag Nanofilms. Physical Review Letters, 2006, 97, 236809.	7.8	35