Markus Becherer

List of Publications by Year
in descending order

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97 papers	1,866 citations	304743 22 h-index	330143 37 g-index
99 all docs	99 docs citations	99 times ranked	1757 citing authors

#	Article	IF	Citations
1	Nanomagnetic Logic: From Devices toÂSystems. Computer Architecture and Design Methodologies, 2023, , 107-143.	0.8	0
2	Advances in Magnetics Roadmap on Spin-Wave Computing. IEEE Transactions on Magnetics, 2022, 58, 1-72.	2.1	179
3	10.1063/9.0000287.2. , 2022, , .		0
4	Tuning the feature size of nanoimprinting stamps: A method to enhance the flexibility of nanoimprint lithography. Journal of Applied Physics, 2022, 131, .	2.5	1
5	10.1063/9.0000287.1. , 2022, , .		0
6	Skyrmion velocities in FIB irradiated W/CoFeB/MgO thin films. AIP Advances, 2022, 12, 035325.	1.3	6
7	Revealing the Negative Capacitance Effect in Silicon Quantum Dot Light-Emitting Diodes via Temperature-Dependent Capacitance-Voltage Characterization. IEEE Photonics Journal, 2022, 14, 1-9.	2.0	3
8	Silicon Nanosheets versus Graphene Nanosheets: A Comparison of Their Nonlinear Optical Response. Journal of Physical Chemistry Letters, 2021, 12, 815-821.	4.6	12
9	Nonreciprocal spin-wave dynamics in Pt/Co/W/Co/Pt multilayers. Physical Review B, 2021, 103, .	3.2	10
10	Fabrication of low cost and low impact RH and temperature sensors for the internet of environmental-friendly things. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2021, 267, 115081.	3.5	7
11	xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Ta</mml:mi></mml:math> / <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Co</mml:mi></mml:math> - <mml:math	3.8	8
12	Experimental demonstration of a concave grating for spin waves in the Rowland arrangement. Scientific Reports, 2021, 11, 14239.	3.3	13
13	Surface Engineering of Silicon Quantum Dots: Does the Ligand Length Impact the Optoelectronic Properties of Lightâ€Emitting Diodes?. Advanced Photonics Research, 2021, 2, 2100083.	3.6	10
14	Optimization of a Handwriting Method by an Automated Ink Pen for Cost-Effective and Sustainable Sensors. Chemosensors, 2021, 9, 264.	3.6	1
15	Robust formation of nanoscale magnetic skyrmions in easy-plane anisotropy thin film multilayers with low damping. Physical Review B, 2021, 104, .	3.2	8
16	Metasurface Photoelectrodes for Enhanced Solar Fuel Generation. Advanced Energy Materials, 2021, 11, 2102877.	19.5	21
17	Perpendicular nanomagnetic logic based on low anisotropy CoNi multilayer. Journal of Magnetism and Magnetic Materials, 2020, 510, 166626.	2.3	8
18	Nanomagnet Logic: Computing by magnetic ordering. IEEE Nanotechnology Magazine, 2020, 14, 6-13.	1.3	5

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19	Lateral silicon oxide/gold interfaces enhance the rate of electrochemical hydrogen evolution reaction in alkaline media. Journal of Chemical Physics, 2020, 152, 154705.	3.0	7
20	Ta/CoFeB/MgO analysis for low power nanomagnetic devices. AIP Advances, 2020, 10, 125229.	1.3	6
21	Next Generation Antennas Based on Screenâ€Printed and Transparent Silver Nanowire Films. Advanced Optical Materials, 2019, 7, 1900995.	7.3	33
22	Screen-Printed Chipless Wireless Temperature Sensor. IEEE Sensors Journal, 2019, 19, 12011-12015.	4.7	19
23	Cost-Effective PEDOT:PSS Temperature Sensors Inkjetted on a Bendable Substrate by a Consumer Printer. Polymers, 2019, 11, 824.	4.5	21
24	PtCoW as a candidate for low power nanomagnetic logic. Journal of Magnetism and Magnetic Materials, 2019, 485, 345-350.	2.3	7
25	Electrolyte gated transistors modified by polypyrrole nanoparticles. Electrochimica Acta, 2019, 309, 65-73.	5.2	8
26	A Facile and Efficient Protocol for Preparing Residual-Free Single-Walled Carbon Nanotube Films for Stable Sensing Applications. Nanomaterials, 2019, 9, 471.	4.1	21
27	Design, fabrication and characterization of capacitive humidity sensors based on emerging flexible technologies. Sensors and Actuators B: Chemical, 2019, 287, 459-467.	7.8	46
28	Flexible Carbon Nanotube Sensors with Screen Printed and Interdigitated Electrodes. , 2019, , .		1
29	Low-Cost Gas Sensing: Dynamic Self-Compensation of Humidity in CNT-Based Devices. ACS Sensors, 2019, 4, 3141-3146.	7.8	22
30	Functionalized and oxidized silicon nanosheets: Customized design for enhanced sensitivity towards relative humidity. Sensors and Actuators B: Chemical, 2019, 283, 451-457.	7.8	7
31	Light and Pressure Sensors Based on PVDF With Sprayed and Transparent Electrodes for Self-Powered Wireless Sensor Nodes. IEEE Sensors Journal, 2019, 19, 1114-1126.	4.7	19
32	Flexible and robust laser-induced graphene heaters photothermally scribed on bare polyimide substrates. Carbon, 2019, 144, 116-126.	10.3	144
33	The influence of surface functionalization methods on the performance of silicon nanocrystal LEDs. Nanoscale, 2018, 10, 10337-10342.	5.6	24
34	Photoelectrochemical reactivity of well-defined mesoscale gold arrays on SiO2/Si substrates in CO2-saturated aqueous electrolyte. Electrochimica Acta, 2018, 268, 546-553.	5.2	7
35	Speeding up nanomagnetic logic by DMI enhanced Pt/Co/Ir films. AIP Advances, 2018, 8, .	1.3	13
36	Using Lipophilic Membrane for Enhancedâ€Performance Aqueous Gated Carbon Nanotube Field Effect Transistors. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700993.	1.8	4

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37	Printed Technology Solutions for Audio Transducers. , 2018, , .		2
38	Scalable Deposition of Nanomaterial-Based Temperature Sensors for Transparent and Pervasive Electronics. Journal of Sensors, 2018, 2018, 1-9.	1.1	4
39	On the Frequency Response of Nanostructured Thermoacoustic Loudspeakers. Nanomaterials, 2018, 8, 833.	4.1	14
40	Simulation of coupled spin torque oscillators for pattern recognition. Journal of Applied Physics, 2018, 124, 152128.	2.5	8
41	Aqueous Synthesis, Degradation, and Encapsulation of Copper Nanowires for Transparent Electrodes. Nanomaterials, 2018, 8, 767.	4.1	15
42	On the sintering of solution-based silver nanoparticle thin-films for sprayed and flexible antennas. Nanotechnology, 2018, 29, 485701.	2.6	9
43	Comprehensive Synthesis Study of Well-Dispersed and Solution-Processed Metal Nanowires for Transparent Heaters. Journal of Nanomaterials, 2018, 2018, 1-13.	2.7	10
44	Ambient Processed, Water-Stable, Aqueous-Gated sub 1â€‰V n-type Carbon Nanotube Field Effect Transistor. Scientific Reports, 2018, 8, 11386.	3.3	13
45	Understanding the influence of in-plane gate electrode design on electrolyte gated transistor. Microelectronic Engineering, 2018, 199, 87-91.	2.4	13
46	Wireless Chipless System for Humidity Sensing. Sensors, 2018, 18, 2275.	3.8	20
47	High Efficiency Thermoacoustic Loudspeaker Made with a Silica Aerogel Substrate. Advanced Materials Technologies, 2018, 3, 1800139.	5.8	11
48	Solution-Processing of Copper Nanowires for Transparent Heaters and Thermo-Acoustic Loudspeakers. IEEE Nanotechnology Magazine, 2018, 17, 940-947.	2.0	23
49	A Handwriting Method for Low-Cost Gas Sensors. ACS Applied Materials & Interfaces, 2018, 10, 34683-34689.	8.0	15
50	Ultra-short-pulse laser ablation and modification of fully sprayed single walled carbon nanotube networks. Carbon, 2018, 138, 234-242.	10.3	25
51	Charge transfer doping in functionalized silicon nanosheets/P3HT hybrid material for applications in electrolyte-gated field-effect transistors. Journal of Materials Chemistry C, 2018, 6, 7343-7352.	5.5	9
52	Flexible Lactate and Glucose Sensors Using Electrolyte-Gated Carbon Nanotube Field Effect Transistor for Non-Invasive Real-Time Monitoring. IEEE Sensors Journal, 2017, 17, 4315-4321.	4.7	23
53	Gain-Tunable Complementary Common-Source Amplifier Based on a Flexible Hybrid Thin-Film Transistor Technology. IEEE Electron Device Letters, 2017, 38, 1536-1539.	3.9	14
54	Inkjet-printed patch antennas for wireless chip-to-chip communication on flexible substrates. , 2017, , .		2

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55	Tailoring the Aqueous Synthesis and Deposition of Copper Nanowires for Transparent Electrodes and Heaters. Advanced Materials Interfaces, 2017, 4, 1700568.	3.7	53
56	Energy harvesting from ambient light using PVDF with highly conductive and transparent silver nanowire/PEDOT:PSS hybride electrodes. , 2017, , .		8
57	Transparent thermocouples based on spray-coated nanocomposites. , 2017, , .		5
58	Modeling and simulation of nanomagnetic logic with cadence virtuoso using Verilog-A. Solid-State Electronics, 2016, 125, 247-253.	1.4	7
59	Domain wall depinning from notches using combined in- and out-of-plane magnetic fields. AIP Advances, 2016, 6, .	1.3	17
60	A monolithic 3D integrated nanomagnetic co-processing unit. Solid-State Electronics, 2016, 115, 74-80.	1.4	17
61	Towards nanomagnetic logic systems: A programmable arithmetic logic unit for systolic array-based computing (Invited). , 2015, , .		2
62	Device-level compact modeling of perpendicular Nanomagnetic Logic for benchmarking purposes. , 2015, , .		3
63	Time-dependent domain wall nucleation probability in field-coupled nanomagnets with perpendicular anisotropy. Journal of Applied Physics, 2015, 117, 17B503.	2.5	8
64	Towards nonvolatile magnetic crossbar arrays: A three-dimensional-integrated field-coupled domain wall gate with perpendicular anisotropy. Journal of Applied Physics, 2015, 117, 17D507.	2.5	5
65	Compact modeling of perpendicular nanomagnetic logic based on threshold gates. Journal of Applied Physics, 2014, 115, 17D104.	2.5	11
66	Signal crossing in perpendicular nanomagnetic logic. Journal of Applied Physics, 2014, 115, .	2.5	29
67	Controlled domain wall pinning in nanowires with perpendicular magnetic anisotropy by localized fringing fields. Journal of Applied Physics, 2014, 115, 17D506.	2.5	12
68	Towards on-chip clocking of perpendicular Nanomagnetic Logic. Solid-State Electronics, 2014, 102, 46-51.	1.4	23
69	Majority logic gate for 3D magnetic computing. Nanotechnology, 2014, 25, 335202.	2.6	58
70	Threshold Gate-Based Circuits From Nanomagnetic Logic. IEEE Nanotechnology Magazine, 2014, 13, 990-996.	2.0	11
71	1-Bit Full Adder in Perpendicular Nanomagnetic Logic using a Novel 5-Input Majority Gate. EPJ Web of Conferences, 2014, 75, 05001.	0.3	26
72	Development of CAD tools for nanomagnetic logic devices. International Journal of Circuit Theory and Applications, 2013, 41, 634-645.	2.0	15

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73	Experimental Demonstration of a 1-Bit Full Adder in Perpendicular Nanomagnetic Logic. IEEE Transactions on Magnetics, 2013, 49, 4464-4467.	2.1	61
74	Towards a Signal Crossing in Double-Layer Nanomagnetic Logic. IEEE Transactions on Magnetics, 2013, 49, 4468-4471.	2.1	31
75	Nanomagnet Fabrication Using Nanoimprint Lithography and Electrodeposition. IEEE Nanotechnology Magazine, 2013, 12, 547-552.	2.0	7
76	Systolic Pattern Matching Hardware With Out-of-Plane Nanomagnet Logic Devices. IEEE Nanotechnology Magazine, 2013, 12, 399-407.	2.0	31
77	Information transport in field-coupled nanomagnetic logic devices. Journal of Applied Physics, 2013, 113, 17B902.	2.5	25
78	Programmable Input for Nanomagnetic Logic Devices. EPJ Web of Conferences, 2013, 40, 16007.	0.3	10
79	Controlled reversal of Co/Pt Dots for nanomagnetic logic applications. Journal of Applied Physics, 2012, 111, 07A715.	2.5	40
80	Clocking magnetic field-coupled devices by domain walls. Journal of Applied Physics, 2012, 111, 07E337.	2.5	13
81	Nanomagnetic Logic: Error-Free, Directed Signal Transmission by an Inverter Chain. IEEE Transactions on Magnetics, 2012, 48, 4332-4335.	2.1	44
82	Computational study of domain-wall-induced switching of Co/Pt multilayer. , 2012, , .		1
83	Majority Gate for Nanomagnetic Logic With Perpendicular Magnetic Anisotropy. IEEE Transactions on Magnetics, 2012, 48, 4336-4339.	2.1	77
84	Nanomagnet Logic from Partially Irradiated Co/Pt Nanomagnets. IEEE Nanotechnology Magazine, 2012, 11, 97-104.	2.0	24
85	Design of a systolic pattern matcher for Nanomagnet Logic. , 2012, , .		3
86	Error analysis of Co/Pt multilayer based Nanomagnetic Logic. , 2011, , .		4
87	Nanomagnetic Logic: Demonstration of directed signal flow for field-coupled computing devices. , 2011, , .		28
88	Nanomagnetic logic: compact modeling of field-coupled computing devices for system investigations. Journal of Computational Electronics, 2011, 10, 352-359.	2.5	18
89	On-chip Extraordinary Hall-effect sensors for characterization of nanomagnetic logic devices. Solid-State Electronics, 2010, 54, 1027-1032.	1.4	25
90	Computational model of partially irradiated nanodots for field-coupled computing devices. , 2010, , .		3

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91	Clocking Schemes for Field Coupled Devices from Magnetic Multilayers. , 2009, , .		17
92	Field-coupled computing in magnetic multilayers. Journal of Computational Electronics, 2008, 7, 454-457.	2.5	23
93	Magnetic Ordering of Focused-Ion-Beam Structured Cobalt-Platinum Dots for Field-Coupled Computing. IEEE Nanotechnology Magazine, 2008, 7, 316-320.	2.0	43
94	A 10-Bit current-steering FinFET D/A converter. , 2008, , .		4
95	Spin-wave localization between nearest and next-nearest neighboring holes in an antidot lattice. Applied Physics Letters, 2008, 93, .	3.3	80
96	Extraordinary Hall-effect sensor in split-current design for readout of magnetic field-coupled logic devices. , 2008, , .		7
97	Focused ion beam structured Co/Pt multilayers for field-coupled magnetic computing. Materials Research Society Symposia Proceedings, 2007, 998, 1.	0.1	6