

Markus Becherer

List of Publications by Year in descending order

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97
papers

1,866
citations

304743

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330143

37
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99
all docs

99
docs citations

99
times ranked

1757
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| 1 | Advances in Magnetics Roadmap on Spin-Wave Computing. IEEE Transactions on Magnetics, 2022, 58, 1-72. | 2.1 | 179 |
| 2 | Flexible and robust laser-induced graphene heaters photothermally scribed on bare polyimide substrates. Carbon, 2019, 144, 116-126. | 10.3 | 144 |
| 3 | Spin-wave localization between nearest and next-nearest neighboring holes in an antidot lattice. Applied Physics Letters, 2008, 93, . | 3.3 | 80 |
| 4 | Majority Gate for Nanomagnetic Logic With Perpendicular Magnetic Anisotropy. IEEE Transactions on Magnetics, 2012, 48, 4336-4339. | 2.1 | 77 |
| 5 | Experimental Demonstration of a 1-Bit Full Adder in Perpendicular Nanomagnetic Logic. IEEE Transactions on Magnetics, 2013, 49, 4464-4467. | 2.1 | 61 |
| 6 | Majority logic gate for 3D magnetic computing. Nanotechnology, 2014, 25, 335202. | 2.6 | 58 |
| 7 | Tailoring the Aqueous Synthesis and Deposition of Copper Nanowires for Transparent Electrodes and Heaters. Advanced Materials Interfaces, 2017, 4, 1700568. | 3.7 | 53 |
| 8 | 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 |
| 9 | Nanomagnetic Logic: Error-Free, Directed Signal Transmission by an Inverter Chain. IEEE Transactions on Magnetics, 2012, 48, 4332-4335. | 2.1 | 44 |
| 10 | Magnetic Ordering of Focused-Ion-Beam Structured Cobalt-Platinum Dots for Field-Coupled Computing. IEEE Nanotechnology Magazine, 2008, 7, 316-320. | 2.0 | 43 |
| 11 | Controlled reversal of Co/Pt Dots for nanomagnetic logic applications. Journal of Applied Physics, 2012, 111, 07A715. | 2.5 | 40 |
| 12 | Next Generation Antennas Based on Screen-Printed and Transparent Silver Nanowire Films. Advanced Optical Materials, 2019, 7, 1900995. | 7.3 | 33 |
| 13 | Towards a Signal Crossing in Double-Layer Nanomagnetic Logic. IEEE Transactions on Magnetics, 2013, 49, 4468-4471. | 2.1 | 31 |
| 14 | Systolic Pattern Matching Hardware With Out-of-Plane Nanomagnet Logic Devices. IEEE Nanotechnology Magazine, 2013, 12, 399-407. | 2.0 | 31 |
| 15 | Signal crossing in perpendicular nanomagnetic logic. Journal of Applied Physics, 2014, 115, . | 2.5 | 29 |
| 16 | Nanomagnetic Logic: Demonstration of directed signal flow for field-coupled computing devices. , 2011, , . | | 28 |
| 17 | 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 |
| 18 | On-chip Extraordinary Hall-effect sensors for characterization of nanomagnetic logic devices. Solid-State Electronics, 2010, 54, 1027-1032. | 1.4 | 25 |

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|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| 19 | Information transport in field-coupled nanomagnetic logic devices. <i>Journal of Applied Physics</i> , 2013, 113, 17B902. | 2.5 | 25 |
| 20 | Ultra-short-pulse laser ablation and modification of fully sprayed single walled carbon nanotube networks. <i>Carbon</i> , 2018, 138, 234-242. | 10.3 | 25 |
| 21 | Nanomagnet Logic from Partially Irradiated Co/Pt Nanomagnets. <i>IEEE Nanotechnology Magazine</i> , 2012, 11, 97-104. | 2.0 | 24 |
| 22 | The influence of surface functionalization methods on the performance of silicon nanocrystal LEDs. <i>Nanoscale</i> , 2018, 10, 10337-10342. | 5.6 | 24 |
| 23 | Field-coupled computing in magnetic multilayers. <i>Journal of Computational Electronics</i> , 2008, 7, 454-457. | 2.5 | 23 |
| 24 | Towards on-chip clocking of perpendicular Nanomagnetic Logic. <i>Solid-State Electronics</i> , 2014, 102, 46-51. | 1.4 | 23 |
| 25 | Flexible Lactate and Glucose Sensors Using Electrolyte-Gated Carbon Nanotube Field Effect Transistor for Non-Invasive Real-Time Monitoring. <i>IEEE Sensors Journal</i> , 2017, 17, 4315-4321. | 4.7 | 23 |
| 26 | Solution-Processing of Copper Nanowires for Transparent Heaters and Thermo-Acoustic Loudspeakers. <i>IEEE Nanotechnology Magazine</i> , 2018, 17, 940-947. | 2.0 | 23 |
| 27 | Low-Cost Gas Sensing: Dynamic Self-Compensation of Humidity in CNT-Based Devices. <i>ACS Sensors</i> , 2019, 4, 3141-3146. | 7.8 | 22 |
| 28 | Cost-Effective PEDOT:PSS Temperature Sensors Inkjetted on a Bendable Substrate by a Consumer Printer. <i>Polymers</i> , 2019, 11, 824. | 4.5 | 21 |
| 29 | A Facile and Efficient Protocol for Preparing Residual-Free Single-Walled Carbon Nanotube Films for Stable Sensing Applications. <i>Nanomaterials</i> , 2019, 9, 471. | 4.1 | 21 |
| 30 | Metasurface Photoelectrodes for Enhanced Solar Fuel Generation. <i>Advanced Energy Materials</i> , 2021, 11, 2102877. | 19.5 | 21 |
| 31 | Wireless Chipless System for Humidity Sensing. <i>Sensors</i> , 2018, 18, 2275. | 3.8 | 20 |
| 32 | Screen-Printed Chipless Wireless Temperature Sensor. <i>IEEE Sensors Journal</i> , 2019, 19, 12011-12015. | 4.7 | 19 |
| 33 | Light and Pressure Sensors Based on PVDF With Sprayed and Transparent Electrodes for Self-Powered Wireless Sensor Nodes. <i>IEEE Sensors Journal</i> , 2019, 19, 1114-1126. | 4.7 | 19 |
| 34 | Nanomagnetic logic: compact modeling of field-coupled computing devices for system investigations. <i>Journal of Computational Electronics</i> , 2011, 10, 352-359. | 2.5 | 18 |
| 35 | Clocking Schemes for Field Coupled Devices from Magnetic Multilayers. , 2009, , . | | 17 |
| 36 | Domain wall depinning from notches using combined in- and out-of-plane magnetic fields. <i>AIP Advances</i> , 2016, 6, . | 1.3 | 17 |

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|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 37 | A monolithic 3D integrated nanomagnetic co-processing unit. Solid-State Electronics, 2016, 115, 74-80. | 1.4 | 17 |
| 38 | Development of CAD tools for nanomagnetic logic devices. International Journal of Circuit Theory and Applications, 2013, 41, 634-645. | 2.0 | 15 |
| 39 | Aqueous Synthesis, Degradation, and Encapsulation of Copper Nanowires for Transparent Electrodes. Nanomaterials, 2018, 8, 767. | 4.1 | 15 |
| 40 | A Handwriting Method for Low-Cost Gas Sensors. ACS Applied Materials & Interfaces, 2018, 10, 34683-34689. | 8.0 | 15 |
| 41 | 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 |
| 42 | On the Frequency Response of Nanostructured Thermoacoustic Loudspeakers. Nanomaterials, 2018, 8, 833. | 4.1 | 14 |
| 43 | Clocking magnetic field-coupled devices by domain walls. Journal of Applied Physics, 2012, 111, 07E337. | 2.5 | 13 |
| 44 | Speeding up nanomagnetic logic by DMI enhanced Pt/Co/Ir films. AIP Advances, 2018, 8, . | 1.3 | 13 |
| 45 | Ambient Processed, Water-Stable, Aqueous-Gated sub 1â€%V n-type Carbon Nanotube Field Effect Transistor. Scientific Reports, 2018, 8, 11386. | 3.3 | 13 |
| 46 | Understanding the influence of in-plane gate electrode design on electrolyte gated transistor. Microelectronic Engineering, 2018, 199, 87-91. | 2.4 | 13 |
| 47 | Experimental demonstration of a concave grating for spin waves in the Rowland arrangement. Scientific Reports, 2021, 11, 14239. | 3.3 | 13 |
| 48 | Controlled domain wall pinning in nanowires with perpendicular magnetic anisotropy by localized fringing fields. Journal of Applied Physics, 2014, 115, 17D506. | 2.5 | 12 |
| 49 | Silicon Nanosheets versus Graphene Nanosheets: A Comparison of Their Nonlinear Optical Response. Journal of Physical Chemistry Letters, 2021, 12, 815-821. | 4.6 | 12 |
| 50 | Compact modeling of perpendicular nanomagnetic logic based on threshold gates. Journal of Applied Physics, 2014, 115, 17D104. | 2.5 | 11 |
| 51 | Threshold Gate-Based Circuits From Nanomagnetic Logic. IEEE Nanotechnology Magazine, 2014, 13, 990-996. | 2.0 | 11 |
| 52 | High Efficiency Thermoacoustic Loudspeaker Made with a Silica Aerogel Substrate. Advanced Materials Technologies, 2018, 3, 1800139. | 5.8 | 11 |
| 53 | Programmable Input for Nanomagnetic Logic Devices. EPJ Web of Conferences, 2013, 40, 16007. | 0.3 | 10 |
| 54 | Comprehensive Synthesis Study of Well-Dispersed and Solution-Processed Metal Nanowires for Transparent Heaters. Journal of Nanomaterials, 2018, 2018, 1-13. | 2.7 | 10 |

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|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 55 | Nonreciprocal spin-wave dynamics in Pt/Co/W/Co/Pt multilayers. Physical Review B, 2021, 103, . | 3.2 | 10 |
| 56 | Surface Engineering of Silicon Quantum Dots: Does the Ligand Length Impact the Optoelectronic Properties of Light-Emitting Diodes?. Advanced Photonics Research, 2021, 2, 2100083. | 3.6 | 10 |
| 57 | On the sintering of solution-based silver nanoparticle thin-films for sprayed and flexible antennas. Nanotechnology, 2018, 29, 485701. | 2.6 | 9 |
| 58 | 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 |
| 59 | Time-dependent domain wall nucleation probability in field-coupled nanomagnets with perpendicular anisotropy. Journal of Applied Physics, 2015, 117, 17B503. | 2.5 | 8 |
| 60 | Energy harvesting from ambient light using PVDF with highly conductive and transparent silver nanowire/PEDOT:PSS hybride electrodes. , 2017, , . | | 8 |
| 61 | Simulation of coupled spin torque oscillators for pattern recognition. Journal of Applied Physics, 2018, 124, 152128. | 2.5 | 8 |
| 62 | Electrolyte gated transistors modified by polypyrrole nanoparticles. Electrochimica Acta, 2019, 309, 65-73. | 5.2 | 8 |
| 63 | Perpendicular nanomagnetic logic based on low anisotropy CoNi multilayer. Journal of Magnetism and Magnetic Materials, 2020, 510, 166626 | 2.3 | 8 |
| 64 | Controlling Domain-Wall Nucleation in $\text{Ta}/\text{Co}/\text{Fe}$ Multilayers. Physical Review B, 2021, 104, . | 3.8 | 8 |
| 65 | Robust formation of nanoscale magnetic skyrmions in easy-plane anisotropy thin film multilayers with low damping. Physical Review B, 2021, 104, . | 3.2 | 8 |
| 66 | Extraordinary Hall-effect sensor in split-current design for readout of magnetic field-coupled logic devices. , 2008, , . | | 7 |
| 67 | Nanomagnet Fabrication Using Nanoimprint Lithography and Electrodeposition. IEEE Nanotechnology Magazine, 2013, 12, 547-552. | 2.0 | 7 |
| 68 | Modeling and simulation of nanomagnetic logic with cadence virtuoso using Verilog-A. Solid-State Electronics, 2016, 125, 247-253. | 1.4 | 7 |
| 69 | Photoelectrochemical reactivity of well-defined mesoscale gold arrays on SiO ₂ /Si substrates in CO ₂ -saturated aqueous electrolyte. Electrochimica Acta, 2018, 268, 546-553. | 5.2 | 7 |
| 70 | PtCoW as a candidate for low power nanomagnetic logic. Journal of Magnetism and Magnetic Materials, 2019, 485, 345-350. | 2.3 | 7 |
| 71 | 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 |
| 72 | 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 |

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|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 73 | Fabrication of low cost and low impact RH and temperature sensors for the internet of environmental-friendly things. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2021, 267, 115081. | 3.5 | 7 |
| 74 | Focused ion beam structured Co/Pt multilayers for field-coupled magnetic computing. <i>Materials Research Society Symposia Proceedings</i> , 2007, 998, 1. | 0.1 | 6 |
| 75 | Ta/CoFeB/MgO analysis for low power nanomagnetic devices. <i>AIP Advances</i> , 2020, 10, 125229. | 1.3 | 6 |
| 76 | Skyrmion velocities in FIB irradiated W/CoFeB/MgO thin films. <i>AIP Advances</i> , 2022, 12, 035325. | 1.3 | 6 |
| 77 | Towards nonvolatile magnetic crossbar arrays: A three-dimensional-integrated field-coupled domain wall gate with perpendicular anisotropy. <i>Journal of Applied Physics</i> , 2015, 117, 17D507. | 2.5 | 5 |
| 78 | Transparent thermocouples based on spray-coated nanocomposites. , 2017, , . | | 5 |
| 79 | Nanomagnet Logic: Computing by magnetic ordering. <i>IEEE Nanotechnology Magazine</i> , 2020, 14, 6-13. | 1.3 | 5 |
| 80 | A 10-Bit current-steering FinFET D/A converter. , 2008, , . | | 4 |
| 81 | Error analysis of Co/Pt multilayer based Nanomagnetic Logic. , 2011, , . | | 4 |
| 82 | Using Lipophilic Membrane for Enhanced Performance Aqueous Gated Carbon Nanotube Field Effect Transistors. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2018, 215, 1700993. | 1.8 | 4 |
| 83 | Scalable Deposition of Nanomaterial-Based Temperature Sensors for Transparent and Pervasive Electronics. <i>Journal of Sensors</i> , 2018, 2018, 1-9. | 1.1 | 4 |
| 84 | Computational model of partially irradiated nanodots for field-coupled computing devices. , 2010, , . | | 3 |
| 85 | Design of a systolic pattern matcher for Nanomagnet Logic. , 2012, , . | | 3 |
| 86 | Device-level compact modeling of perpendicular Nanomagnetic Logic for benchmarking purposes. , 2015, , . | | 3 |
| 87 | Revealing the Negative Capacitance Effect in Silicon Quantum Dot Light-Emitting Diodes via Temperature-Dependent Capacitance-Voltage Characterization. <i>IEEE Photonics Journal</i> , 2022, 14, 1-9. | 2.0 | 3 |
| 88 | Towards nanomagnetic logic systems: A programmable arithmetic logic unit for systolic array-based computing (Invited). , 2015, , . | | 2 |
| 89 | Inkjet-printed patch antennas for wireless chip-to-chip communication on flexible substrates. , 2017, , . | | 2 |
| 90 | Printed Technology Solutions for Audio Transducers. , 2018, , . | | 2 |

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|----|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 91 | Computational study of domain-wall-induced switching of Co/Pt multilayer. , 2012, , . | | 1 |
| 92 | Flexible Carbon Nanotube Sensors with Screen Printed and Interdigitated Electrodes. , 2019, , . | | 1 |
| 93 | Optimization of a Handwriting Method by an Automated Ink Pen for Cost-Effective and Sustainable Sensors. Chemosensors, 2021, 9, 264. | 3.6 | 1 |
| 94 | 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 |
| 95 | 10.1063/9.0000287.2. , 2022, , . | | 0 |
| 96 | 10.1063/9.0000287.1. , 2022, , . | | 0 |
| 97 | Nanomagnetic Logic: From Devices to Systems. Computer Architecture and Design Methodologies, 2023, , 107-143. | 0.8 | 0 |