Shan X Wang

List of Publications by Year
in descending order

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102 papers	4,257 citations	172207 29 h-index	114278 63 g-index
105 all docs	105 docs citations	105 times ranked	6130 citing authors

#	Article	IF	Citations
1	An automated and mobile magnetoresistive biosensor system for early hepatocellular carcinoma diagnosis. Biosensors and Bioelectronics, 2022, 202, 113982.	5.3	18
2	A GMR-based assay for quantification of the human response to influenza. Biosensors and Bioelectronics, 2022, 205, 114086.	5.3	11
3	From saliva to SNP: non-invasive, point-of-care genotyping for precision medicine applications using recombinase polymerase amplification and giant magnetoresistive nanosensors. Lab on A Chip, 2022, 22, 2131-2144.	3.1	13
4	Giant Magnetoresistive Nanosensor Analysis of Circulating Tumor DNA Epidermal Growth Factor Receptor Mutations for Diagnosis and Therapy Response Monitoring. Clinical Chemistry, 2021, 67, 534-542.	1.5	14
5	Tunable spinâ€“orbit torque efficiency in in-plane and perpendicular magnetized [Pt/Co]n multilayer. Applied Physics Letters, 2021, 118, 042405.	1.5	5
6	Large and robust charge-to-spin conversion in sputtered conductive WTe with disorder. Matter, 2021, 4, 1639-1653.	5.0	15
7	A Self-Sustained Current Sensor for Smart Grid Application. IEEE Transactions on Industrial Electronics, 2021, 68, 12810-12820.	5.2	11
8	Spinâ€“orbit torques of an in-plane magnetized system modulated by the spin transport in the ferromagnetic Co layer. APL Materials, 2021, 9, .	2.2	2
9	Piezoelectricâ€“Piezoresistive Coupling MEMS Sensors for Measurement of Electric Fields of Broad Bandwidth and Large Dynamic Range. IEEE Transactions on Industrial Electronics, 2020, 67, 551-559.	5.2	33
10	Drive-Current-Free Switch With Internal Transduction in a Magneto Piezo-Electronic Transistor. IEEE Transactions on Industrial Electronics, 2020, 67, 3257-3266.	5.2	1
11	Diagnostics for SARS-CoV-2 detection: A comprehensive review of the FDA-EUA COVID-19 testing landscape. Biosensors and Bioelectronics, 2020, 165, 112454.	5.3	323
12	Early Multiplexed Detection of Cirrhosis using Giant Magnetoresistive Biosensors with Protein Biomarkers. ACS Sensors, 2020, 5, 3049-3057.	4.0	15
13	Flow Homogenization Enables a Massively Parallel Fluidic Design for Highâ€Throughput and Multiplexed Cell Isolation. Advanced Materials Technologies, 2020, 5, 1900960.	3.0	0
14	A Novel Current Reconstruction Method Based on Elastic Net Regularization. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 7484-7493.	2.4	8
15	A mountable toilet system for personalized health monitoring via the analysis of excreta. Nature Biomedical Engineering, 2020, 4, 624-635.	11.6	112
16	Parametric Reconstruction of Multiple Line Currents Based on Magnetic Sensor Array. IEEE Transactions on Magnetics, 2020, 56, 1-8.	1.2	5
17	Carbon-coated FeCo nanoparticles as sensitive magnetic-particle-imaging tracers with photothermal and magnetothermal properties. Nature Biomedical Engineering, 2020, 4, 325-334.	11.6	160
18	Materials Requirements of High-Speed and Low-Power Spin-Orbit-Torque Magnetic Random-Access Memory. IEEE Journal of the Electron Devices Society, 2020, 8, 674-680.	1.2	18

#	Article	IF	Citations
19	Spin-Orbit-Torque Material Exploration for Maximum Array-Level Read/Write Performance. , 2020, , .		7
20	Improved detection of prostate cancer using a magneto-nanosensor assay for serum circulating autoantibodies. PLoS ONE, 2019, 14, e0221051.	1.1	18
21	Large voltage control of magnetic anisotropy in CoFeB/MgO/OX structures at room temperature. APL Materials, 2019, 7, .	2.2	11
22	An Automated, Quantitative, and Multiplexed Assay Suitable for Point-of-Care Hepatitis B Virus Diagnostics. Scientific Reports, 2019, 9, 15615.	1.6	24
23	Quantification of cDNA on GMR biosensor array towards point-of-care gene expression analysis. Biosensors and Bioelectronics, 2019, 130, 338-343.	5.3	31
24	Self-healing of electrical damage in polymers using superparamagnetic nanoparticles. Nature Nanotechnology, 2019, 14, 151-155.	15.6	169
25	Overhead Transmission Line Parameter Reconstruction for UAV Inspection Based on Tunneling Magnetoresistive Sensors and Inverse Models. IEEE Transactions on Power Delivery, 2019, 34, 819-827.	2.9	45
26	An electrodynamic energy harvester with a 3D printed magnet and optimized topology. Applied Physics Letters, 2019, 114, 013902.	1.5	10
27	Highly sensitive detection of DNA hypermethylation in melanoma cancer cells. Biosensors and Bioelectronics, 2019, 124-125, 136-142.	5.3	17
28	Magneto-nanosensor smartphone platform for the detection of HIV and leukocytosis at point-of-care. Nanomedicine: Nanotechnology, Biology, and Medicine, 2019, 16, 10-19.	1.7	38
29	Method of interâ€turn fault detection for nextâ€generation smart transformers based on deep learning algorithm. High Voltage, 2019, 4, 282-291.	2.7	29
30	Materials Requirements of High-Speed and Low-Power Spin-Orbit-Torque Magnetic Random-Access Memory. , 2019, , .		2
31	Magnetoresistive biosensors with on-chip pulsed excitation and magnetic correlated double sampling. Scientific Reports, 2018, 8, 16493.	1.6	13
32	Two-terminal spinâ€“orbit torque magnetoresistive random access memory. Nature Electronics, 2018, 1, 508-511.	13.1	141
33	Longitudinal Multiplexed Measurement of Quantitative Proteomic Signatures in Mouse Lymphoma Models Using Magneto-Nanosensors. Theranostics, 2018, 8, 1389-1398.	4.6	11
34	An intravascular magnetic wire for the high-throughput retrieval of circulating tumour cells in vivo. Nature Biomedical Engineering, 2018, 2, 696-705.	11.6	92
35	Exchange-Biased Anisotropic Magnetoresistive Field Sensor. IEEE Sensors Journal, 2017, 17, 3309-3315.	2.4	21
36	Stand-Alone Stretchable Absolute Pressure Sensing System for Industrial Applications. IEEE Transactions on Industrial Electronics, 2017, 64, 8739-8746.	5.2	20

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37	Electrically Tunable Integrated Thinâ€Film Magnetoelectric Resonators. Advanced Materials Technologies, 2017, 2, 1700062.	3.0	13
38	Multigene profiling of single circulating tumor cells. Molecular and Cellular Oncology, 2017, 4, e1289295.	0.3	1
39	Longitudinal Monitoring of Antibody Responses against Tumor Cells Using Magneto-nanosensors with a Nanoliter of Blood. Nano Letters, 2017, 17, 6644-6652.	4.5	13
40	Capture and Genetic Analysis of Circulating Tumor Cells Using a Magnetic Separation Device (Magnetic Sifter). Methods in Molecular Biology, 2017, 1634, 153-162.	0.4	1
41	Simultaneous Profiling of DNA Mutation and Methylation by Melting Analysis Using Magnetoresistive Biosensor Array. ACS Nano, 2017, 11, 8864-8870.	7.3	32
42	Denaturation strategies for detection of double stranded PCR products on GMR magnetic biosensor array. Biosensors and Bioelectronics, 2017, 93, 155-160.	5.3	28
43	Gigahertz-Band Integrated Magnetic Inductors. IEEE Transactions on Microwave Theory and Techniques, 2017, 65, 4893-4900.	2.9	11
44	High-throughput full-length single-cell mRNA-seq of rare cells. PLoS ONE, 2017, 12, e0188510.	1.1	7
45	Bio-Inspired Stretchable Absolute Pressure Sensor Network. Sensors, 2016, 16, 55.	2.1	23
46	Multiplex giant magnetoresistive biosensor microarrays identify interferon-associated autoantibodies in systemic lupus erythematosus. Scientific Reports, 2016, 6, 27623.	1.6	30
47	Molecular profiling of single circulating tumor cells from lung cancer patients. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E8379-E8386.	3.3	90
48	Portable, one-step, and rapid GMR biosensor platform with smartphone interface. Biosensors and Bioelectronics, 2016, 85, 1-7.	5.3	111
49	Small Molecule Detection in Saliva Facilitates Portable Tests of Marijuana Abuse. Analytical Chemistry, 2016, 88, 7457-7461.	3.2	45
50	Magneto-nanosensor platform for probing low-affinity proteinâ€“protein interactions and identification of a low-affinity PD-L1/PD-L2 interaction. Nature Communications, 2016, 7, 12220.	5.8	29
51	Experimental and theoretical investigation of the precise transduction mechanism in giant magnetoresistive biosensors. Scientific Reports, 2016, 6, 18692.	1.6	21
52	Effect of Mg Oxidation Degree on Rashba-Effect-Induced Torques in Ta/CoFeB/Mg(MgO) Multilayer. IEEE Transactions on Magnetics, 2016, 52, 1-4.	1.2	9
53	Giant magnetoresistive sensor array for sensitive and specific multiplexed food allergen detection. Biosensors and Bioelectronics, 2016, 80, 359-365.	5.3	56
54	Achieving Isotropic Permeability for Integrated Inductors. IEEE Transactions on Magnetics, 2015, 51, 1-4.	1.2	5

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55	Pilot Application of Magnetic Nanoparticle-Based Biosensor for Necrotizing Enterocolitis. Journal of Proteomics and Bioinformatics, 2015, s5, .	0.4	8
56	Magnetic energy harvesting properties of piezofiber bimorph/NdFeB composites. Applied Physics Letters, 2014, 104, .	1.5	27
57	Isolation and mutational analysis of circulating tumor cells from lung cancer patients with magnetic sifters and biochips. Lab on A Chip, 2014, 14, 78-88.	3.1	149
58	Spin-wave resonances in the presence of a Bloch wall. Physical Review B, 2014, 89, .	1.1	8
59	Modeling and experiments of magneto-nanosensors for diagnostics of radiation exposure and cancer. Biomedical Microdevices, 2013, 15, 665-671.	1.4	7
60	Rapid Characterization of Magnetic Moment of Cells for Magnetic Separation. IEEE Transactions on Magnetics, 2013, 49, 3434-3437.	1.2	1
61	Kerr-Imaged Edge-Curling Wall Effects of Narrow Magnetic Cores. IEEE Transactions on Magnetics, 2013, 49, 4017-4020.	1.2	6
62	Integrated Transformers With Sputtered Laminated Magnetic Core. IEEE Transactions on Magnetics, 2013, 49, 4021-4027.	1.2	19
63	Functionalization of high-moment magnetic nanodisks for cell manipulation and separation. Nano Research, 2013, 6, 745-751.	5.8	13
64	Magnetic, Mechanical, and Optical Characterization of a Magnetic Nanoparticle-Embedded Polymer for Microactuation. Journal of Microelectromechanical Systems, 2011, 20, 65-72.	1.7	36
65	Quantification of protein interactions and solution transport using high-density GMR sensor arrays. Nature Nanotechnology, 2011, 6, 314-320.	15.6	252
66	Gradual pressure release for reliable nanoimprint lithography. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, .	0.6	5
67	The influence of Fermi level pinning/depinning on the Schottky barrier height and contact resistance in Ge/CoFeB and Ge/MgO/CoFeB structures. Applied Physics Letters, 2010, 96, 052514.	1.5	49
68	Portable biomarker detection with magnetic nanotags. , 2010, , 1779-1782.		9
69	Nonreciprocal Spin Waves in Co-Ta-Zr Films and Multilayers. IEEE Transactions on Magnetics, 2009, 45, 4215-4218.	1.2	5
70	Designs for a Microfabricated Magnetic Sifter. IEEE Transactions on Magnetics, 2009, 45, 4884-4887.	1.2	12
71	Matrix-insensitive protein assays push the limits of biosensors in medicine. Nature Medicine, 2009, 15, 1327-1332.	15.2	359
72	On-package magnetic materials for embedded inductor applications. , 2009, , .		5

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73	Small-Resistance and High-Quality-Factor Magnetic Integrated Inductors on PCB. IEEE Transactions on Advanced Packaging, 2009, 32, 780-787.	1.7	24
74	Giant magnetoresistive biochip for DNA detection and HPV genotyping. Biosensors and Bioelectronics, 2008, 24, 99-103.	5.3	145
75	Design and fabrication of integrated solenoid inductors with magnetic cores. , 2008, , .		11
76	Multiplex protein assays based on real-time magnetic nanotag sensing. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 20637-20640.	3.3	271
77	Integrated Microstrip Lines With Coâ€“Taâ€“Zr Magnetic Films. IEEE Transactions on Magnetics, 2008, 44, 3103-3106.	1.2	4
78	Fabrication and Analysis of High-Performance Integrated Solenoid Inductor With Magnetic Core. IEEE Transactions on Magnetics, 2008, 44, 4089-4095.	1.2	117
79	Patterning of high density magnetic nanodot arrays by nanoimprint lithography. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2007, 25, 1294-1297.	0.9	16
80	Room temperature exchange bias and spin valves based on BiFeO3âˆ•SrRuO3âˆ•SrTiO3âˆ•Si (001) heterostructures. Applied Physics Letters, 2007, 91, .	1.5	105
81	High-frequency responses of granular CoFeHfO and amorphous CoZrTa magnetic materials. Journal of Applied Physics, 2007, 101, 123912.	1.1	25
82	Analytical formula for the tunneling current versus voltage for multilayer barrier structures. Journal of Applied Physics, 2007, 101, 083706.	1.1	10
83	Tensor Nature of Permeability and Its Effects in Inductive Magnetic Devices. IEEE Transactions on Magnetics, 2007, 43, 2373-2375.	1.2	19
84	One-pot synthesis of monodisperse iron oxide nanoparticles for potential biomedical applications. Pure and Applied Chemistry, 2006, 78, 1003-1014.	0.9	150
85	Spin valve sensors for ultrasensitive detection of superparamagnetic nanoparticles for biological applications. Sensors and Actuators A: Physical, 2006, 126, 98-106.	2.0	199
86	Spin valve biosensors: Signal dependence on nanoparticle position. Journal of Applied Physics, 2006, 99, 08P107.	1.1	19
87	Spin filter based tunnel junctions. Journal of Applied Physics, 2006, 100, 123909.	1.1	10
88	Pulsed laser deposition grown CoFe2O4âˆ•Fe3O4 bilayers and their tunneling characteristics. Journal of Applied Physics, 2005, 97, 10C915.	1.1	7
89	Observation of the Verwey transition in thin magnetite films. Journal of Applied Physics, 2005, 97, 123901.	1.1	27
90	Fe3O4 and its magnetic tunneling junctions grown by ion beam deposition. Journal of Applied Physics, 2003, 93, 7954-7956.	1.1	46

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91	Dependence of Natural Oxidation Spin-Dependent Tunneling Junction on Junction Area. Physica Status Solidi A, 2002, 189, 659-662.	1.7	3
92	Fabrication and Comparison of Broad-band Inductors with One and Two Co-based Amorphous Ground Planes. Transactions of the Magnetics Society of Japan, 2002, 2, 357-360.	0.5	5
93	Spin-dependent tunneling junctions with AlN and AlON barriers. Applied Physics Letters, 2000, 77, 2219-2221.	1.5	36
94	Spin-dependent tunneling junctions with Fe55Ni45 electrodes and in situ resistive measurement of oxide growth. Applied Physics Letters, 1999, 74, 2528-2530.	1.5	10
95	Direct measurement of surface scattering in giant magnetoresistance spin valves. Journal of Applied Physics, 1999, 85, 7345-7348.	1.1	24
96	Investigation of ion beam deposited spin valve interface structure by 59Co nuclear magnetic resonance. Journal of Applied Physics, 1999, 85, 4439-4441.	1.1	4
97	Surface scattering dependence of GMR in spin valves: the effect of RU overlayers. , 1999, , .		0
98	Surface specularity of NiFe, Co and Cu thin films by in-situ conductance measurement. , 1999, , .		0
99	Effects of lamination on soft magnetic properties of FeN films on sloping surfaces. Journal of Applied Physics, 1997, 81, 4507-4509.	1.1	11
100	In SITU And EX SITU Observation Of Spin-valves Obtained By Ion-beam Deposition. , 0, , .		0
101	The Dependence Of Overwrite On Non-linear Transition Shift. , 0, , .		1
102	Domain Structures And Magnetic Properties Of FeN Films Depostird On Sloping Surfaces. , 0, , .		0