

Daryoosh Vashae

List of Publications by Year in descending order

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92
papers

8,639
citations

126858

33
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42364

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96
all docs

96
docs citations

96
times ranked

9112
citing authors

#	ARTICLE	IF	CITATIONS
1	Giant doping response of magnetic anisotropy in MnTe. <i>Physical Review Materials</i> , 2022, 6, .	0.9	8
2	Design and Implementation of an Ultralow-Power ECG Patch and Smart Cloud-Based Platform. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2022, 71, 1-11.	2.4	9
3	Coupling Light in Ion-Exchanged Waveguides by Silver Nanoparticle-Based Nanogratings: Manipulating the Refractive Index of Waveguides. <i>ACS Applied Nano Materials</i> , 2022, 5, 5439-5447.	2.4	2
4	Topological phase and thermoelectric properties of bialkali bismuthide compounds (Na, K)Bi ₂ Te ₃ . <i>Physical Review Applied</i> , 2021, 15, .	0.7	4
5	Thermoelectric, Magnetic, and Mechanical Characteristics of Antiferromagnetic Manganese Telluride Reinforced with Graphene Nanoplates. <i>Advanced Engineering Materials</i> , 2021, 23, 2000816.	1.6	10
6	Efficient self-powered wearable electronic systems enabled by microwave processed thermoelectric materials. <i>Applied Energy</i> , 2021, 283, 116211.	5.1	20
7	Infinite-stage Nernst-Ettingshausen Cryocooler for Practical Applications. <i>Physical Review Applied</i> , 2021, 15, .	1.5	10
8	Flexible thermoelectric generator with liquid metal interconnects and low thermal conductivity silicone filler. <i>Npj Flexible Electronics</i> , 2021, 5, .	5.1	44
9	Assessment of Thermoelectric, Mechanical, and Microstructural Reinforcement Properties of Graphene-Mixed Heterostructures. <i>ACS Applied Energy Materials</i> , 2021, 4, 3573-3583.	2.5	12
10	Topological quantum matter to topological phase conversion: Fundamentals, materials, physical systems for phase conversions, and device applications. <i>Materials Science and Engineering Reports</i> , 2021, 145, 100620.	14.8	23
11	Anomalous Thermoelectric Transport Properties of Fe-Rich Magnetic FeTe. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2100231.	1.2	7
12	Thermal Management Systems and Waste Heat Recycling by Thermoelectric Generators—An Overview. <i>Energies</i> , 2021, 14, 5646.	1.6	23
13	Highly stable full Heusler order Cs(Na, K)Bi ₂ Te ₃ with diverse topological phases controlled by strain engineering. <i>Materials Science and Engineering B: Solid-State Materials</i> , 2021, 275, 116211.	1.7	5
14	Promising Bialkali Bismuthides Cs(Na, K)Bi ₂ Te ₃ for High-Performance Nanoscale Electromechanical Devices: Prediction of Mechanical and Anisotropic Elastic Properties under Hydrostatic Tension and Compression and Tunable Auxetic Properties. <i>Nanomaterials</i> , 2021, 11, 2739.	1.9	6
15	Spin fluctuations yield α enhancement in ferromagnets. <i>Science</i> , 2021, 24, 103356.	1.9	11
16	Understanding and design of spin-driven thermoelectrics. <i>Cell Reports Physical Science</i> , 2021, 2, 100614.	2.8	12
17	Thermoelectric generators for wearable body heat harvesting: Material and device concurrent optimization. <i>Nano Energy</i> , 2020, 67, 104265.	8.2	65
18	3D construct of hydroxyapatite/zinc oxide/palladium nanocomposite scaffold for bone tissue engineering. <i>Journal of Materials Science: Materials in Medicine</i> , 2020, 31, 85.	1.7	17

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19	Magnon-bipolar carrier drag thermopower in antiferromagnetic/ferromagnetic semiconductors: Theoretical formulation and experimental evidence. <i>Physical Review B</i> , 2020, 102, .	1.1	19
20	Nano-hydroxyapatite and nano-hydroxyapatite/zinc oxide scaffold for bone tissue engineering application. <i>International Journal of Applied Ceramic Technology</i> , 2020, 17, 2752-2761.	1.1	25
21	Enhancement of Diffusion, Densification and Solid-State Reactions in Dielectric Materials Due to Interfacial Interaction of Microwave Radiation: Theory and Experiment. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 50941-50952.	4.0	10
22	Magnon and spin transition contribution in heat capacity of ferromagnetic Cr-doped MnTe: Experimental evidence for a paramagnetic spin-caloritronic effect. <i>Applied Physics Letters</i> , 2020, 117, .	1.5	13
23	Effect of Microwave Processing and Glass Inclusions on Thermoelectric Properties of P-Type Bismuth Antimony Telluride Alloys for Wearable Applications. <i>Energies</i> , 2020, 13, 4524.	1.6	8
24	Evaluation of mechanical and biocompatibility properties of hydroxyapatite/manganese dioxide nanocomposite scaffolds for bone tissue engineering application. <i>International Journal of Applied Ceramic Technology</i> , 2020, 17, 2439-2449.	1.1	10
25	Biodegradable Magnesium Bone Implants Coated with a Novel Bioceramic Nanocomposite. <i>Materials</i> , 2020, 13, 1315.	1.3	36
26	Magnon-drag thermopower in antiferromagnets versus ferromagnets. <i>Journal of Materials Chemistry C</i> , 2020, 8, 4049-4057.	2.7	28
27	Experimental Realization of Heavily p-doped Half-Heusler CoVSn Compound. <i>Energies</i> , 2020, 13, 1459.	1.6	7
28	Interfacial ponderomotive force in solids leads to field induced dissolution of materials and formation of non-equilibrium nanocomposites. <i>Acta Materialia</i> , 2019, 179, 85-92.	3.8	6
29	Remarkably improved electrochemical hydrogen storage by multi-walled carbon nanotubes decorated with nanoporous bimetallic Fe-Ag/TiO ₂ nanoparticles. <i>Dalton Transactions</i> , 2019, 48, 898-907.	1.6	35
30	Strategies for engineering phonon transport in Heusler thermoelectric compounds. <i>Renewable and Sustainable Energy Reviews</i> , 2019, 112, 158-169.	8.2	35
31	N-Type Bismuth Telluride Nanocomposite Materials Optimization for Thermoelectric Generators in Wearable Applications. <i>Materials</i> , 2019, 12, 1529.	1.3	35
32	Enhancing cell seeding and osteogenesis of MSCs on 3D printed scaffolds through injectable BMP2 immobilized ECM-Mimetic gel. <i>Dental Materials</i> , 2019, 35, 990-1006.	1.6	48
33	Field induced decrystallization of silicon: Evidence of a microwave non-thermal effect. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	27
34	Early diagnosis of disease using microbead array technology: A review. <i>Analytica Chimica Acta</i> , 2018, 1032, 1-17.	2.6	55
35	Collagenous matrix supported by a 3D-printed scaffold for osteogenic differentiation of dental pulp cells. <i>Dental Materials</i> , 2018, 34, 209-220.	1.6	26
36	Improvement of in vitro behavior of an Mg alloy using a nanostructured composite bioceramic coating. <i>Journal of Materials Science: Materials in Medicine</i> , 2018, 29, 159.	1.7	17

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37	Multiplexed microarrays based on optically encoded microbeads. <i>Biomedical Microdevices</i> , 2018, 20, 66.	1.4	34
38	Cartilage and facial muscle tissue engineering and regeneration: a mini review. <i>Bio-Design and Manufacturing</i> , 2018, 1, 115-122.	3.9	4
39	The effect of nanostructuring on the spectral population of electrons and phonons. <i>Journal of Alloys and Compounds</i> , 2018, 753, 234-238.	2.8	6
40	Valleytronics of III-V solid solutions for thermoelectric application. <i>RSC Advances</i> , 2017, 7, 7310-7314.	1.7	6
41	A novel electrochemical biosensor based on Fe ₃ O ₄ nanoparticles-polyvinyl alcohol composite for sensitive detection of glucose. <i>Analytical Biochemistry</i> , 2017, 519, 19-26.	1.1	100
42	Phonon dynamics in type-VIII silicon clathrates: Beyond the rattler concept. <i>Physical Review B</i> , 2017, 95, .	1.1	23
43	Effect of the Fabrication Technique on the Thermoelectric Performance of Mg-Based Compounds—A Case Study of n-Type Mg ₂ Ge. <i>ACS Omega</i> , 2017, 2, 8069-8074.	1.6	7
44	From solvent-free microspheres to bioactive gradient scaffolds. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2017, 13, 1157-1169.	1.7	14
45	Porous magnesium-based scaffolds for tissue engineering. <i>Materials Science and Engineering C</i> , 2017, 71, 1253-1266.	3.8	212
46	Doping induced enhanced density of states in bismuth telluride. <i>Applied Physics Letters</i> , 2017, 111, .	1.5	11
47	Thioglycolic Acid-Capped CdS Quantum Dots Conjugated to Î±-Amylase as a Fluorescence Probe for Determination of Starch at Low Concentration. <i>Journal of Fluorescence</i> , 2016, 26, 1787-1794.	1.3	21
48	Classification of Valleytronics in Thermoelectricity. <i>Scientific Reports</i> , 2016, 6, 22724.	1.6	40
49	Comparison of thermoelectric properties of nanostructured Mg ₂ Si, FeSi ₂ , SiGe, and nanocomposites of SiGe/Mg ₂ Si, SiGe/FeSi ₂ . <i>APL Materials</i> , 2016, 4, 104814.	2.2	37
50	Designing thermoelectric generators for self-powered wearable electronics. <i>Energy and Environmental Science</i> , 2016, 9, 2099-2113.	15.6	299
51	Mechanical properties of natural chitosan/hydroxyapatite/magnetite nanocomposites for tissue engineering applications. <i>Materials Science and Engineering C</i> , 2016, 65, 338-344.	3.8	61
52	Synthesis, Surface Modification and Optical Properties of Thioglycolic Acid-Capped ZnS Quantum Dots for Starch Recognition at Ultralow Concentration. <i>Journal of Electronic Materials</i> , 2016, 45, 5671-5678.	1.0	21
53	Enhanced thermoelectric performance in a metal/semiconductor nanocomposite of iron silicide/silicon germanium. <i>RSC Advances</i> , 2016, 6, 49643-49650.	1.7	37
54	Determination of total aflatoxin using cysteamine-capped CdS quantum dots as a fluorescence probe. <i>Colloid and Polymer Science</i> , 2016, 294, 1453-1462.	1.0	28

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55	Development of Inexpensive SiGe/FeSi ₂ Thermoelectric Nanocomposites. Energy Harvesting and Systems, 2015, 2, .	1.7	1
56	Flexible Technologies for Self-Powered Wearable Health and Environmental Sensing. Proceedings of the IEEE, 2015, 103, 665-681.	16.4	166
57	Biomineralization and biocompatibility studies of bone conductive scaffolds containing poly(3,4-ethylenedioxythiophene):poly(4-styrene sulfonate) (PEDOT:PSS). Journal of Materials Science: Materials in Medicine, 2015, 26, 274.	1.7	45
58	Surface modification of biodegradable porous Mg bone scaffold using polycaprolactone/bioactive glass composite. Materials Science and Engineering C, 2015, 49, 436-444.	3.8	87
59	The Effect of Multivalley Bandstructure on Thermoelectric Properties of Al _x Ga _{1-x} As. Journal of Electronic Materials, 2015, 44, 636-644.	1.0	7
60	In Vitro Analysis of Electrophoretic Deposited Fluoridated Hydroxyapatite Coating on Micro-arc Oxidized AZ91 Magnesium Alloy for Biomaterials Applications. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 1394-1404.	1.1	34
61	In vivo assessments of bioabsorbable AZ91 magnesium implants coated with nanostructured fluoridated hydroxyapatite by MAO/EPD technique for biomedical applications. Materials Science and Engineering C, 2015, 48, 21-27.	3.8	96
62	3D conductive nanocomposite scaffold for bone tissue engineering. International Journal of Nanomedicine, 2014, 9, 167.	3.3	114
63	Reduction of thermal conductivity of bulk nanostructured bismuth telluride composites embedded with silicon nano-inclusions. Journal of Applied Physics, 2014, 115, .	1.1	25
64	Influence of germanium nano-inclusions on the thermoelectric power factor of bulk bismuth telluride alloy. Journal of Applied Physics, 2014, 115, 204308.	1.1	7
65	Surface microstructure and in vitro analysis of nanostructured akermanite (Ca ₂ MgSi ₂ O ₇) coating on biodegradable magnesium alloy for biomedical applications. Colloids and Surfaces B: Biointerfaces, 2014, 117, 432-440.	2.5	69
66	Micro-arc oxidation and electrophoretic deposition of nano-grain merwinite (Ca ₃ MgSi ₂ O ₈) surface coating on magnesium alloy as biodegradable metallic implant. Surface and Interface Analysis, 2014, 46, 387-392.	0.8	24
67	Green synthesis of a new gelatin-based antimicrobial scaffold for tissue engineering. Materials Science and Engineering C, 2014, 39, 235-244.	3.8	46
68	In vitro study of nanostructured diopside coating on Mg alloy orthopedic implants. Materials Science and Engineering C, 2014, 41, 168-177.	3.8	80
69	Prediction of Giant Thermoelectric Power Factor in Type-VIII Clathrate Si ₄₆ . Scientific Reports, 2014, 4, 7028.	1.6	28
70	The effect of phase heterogeneity on thermoelectric properties of nanostructured silicon germanium alloy. Journal of Applied Physics, 2013, 114, 023705.	1.1	21
71	Preparation of Al ₂ O ₃ metal matrix composite powder by mechanochemical reaction between Al, SiO ₂ and C. Micro and Nano Letters, 2013, 8, 519-522.	0.6	2
72	Digital holographic microscopy of the myelin figure structural dynamics and the effect of thermal gradient. Biomedical Optics Express, 2013, 4, 950.	1.5	14

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73	Synthesis and Characterization of Encapsulated Nanosilica Particles with an Acrylic Copolymer by in Situ Emulsion Polymerization Using Thermoresponsive Nonionic Surfactant. <i>Materials</i> , 2013, 6, 3727-3741.	1.3	73
74	Electronic, elastic, vibrational, and thermodynamic properties of type-VIII clathrates Ba ₈ Ga ₁₆ Sn ₃₀ and Ba ₈ Al ₁₆ Sn ₃₀ by first principles. <i>Journal of Applied Physics</i> , 2013, 114, 163509.	1.1	12
75	The Effect of Hyaluronic Acid on Biofunctionality of Gelatin-Collagen Tissue Engineering Scaffolds. <i>Journal of Biomedical Materials Research - Part A</i> , 2013, 102, n/a-n/a.	2.1	2
76	Structural Configuration of Myelin Figures Using Fluorescence Microscopy. <i>International Journal of Photoenergy</i> , 2012, 2012, 1-7.	1.4	10
77	The effect of nanostructuring on thermoelectric transport properties of p-type higher manganese silicide MnSi _{1.73} . <i>Journal of Applied Physics</i> , 2012, 112, .	1.1	47
78	Detrimental influence of nanostructuring on the thermoelectric properties of magnesium silicide. <i>Journal of Applied Physics</i> , 2012, 112, .	1.1	51
79	Comparison of thermoelectric properties of p-type nanostructured bulk Si _{0.8} Ge _{0.2} alloy with Si _{0.8} Ge _{0.2} composites embedded with CrSi ₂ nano-inclusions. <i>Journal of Applied Physics</i> , 2012, 112, .	1.1	53
80	The effect of crystallite size on thermoelectric properties of bulk nanostructured magnesium silicide (Mg ₂ Si) compounds. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	73
81	Enhancement in thermoelectric power factor of polycrystalline Bi _{0.5} Sb _{1.5} Te ₃ by crystallite alignment. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2012, 209, 2131-2134.	0.8	18
82	Modeling of Thermoelectric Properties of Magnesium Silicide (Mg ₂ Si). <i>Journal of Electronic Materials</i> , 2012, 41, 1785-1791.	1.0	57
83	Effects of nanoscale porosity on thermoelectric properties of SiGe. <i>Journal of Applied Physics</i> , 2010, 107, .	1.1	181
84	High-Thermoelectric Performance of Nanostructured Bismuth Antimony Telluride Bulk Alloys. <i>Science</i> , 2008, 320, 634-638.	6.0	4,843
85	Cross-plane Seebeck coefficient in superlattice structures in the miniband conduction regime. <i>Physical Review B</i> , 2006, 74, .	1.1	40
86	MODELING AND OPTIMIZATION OF SINGLE-ELEMENT BULK SiGe THIN-FILM COOLERS. <i>Microscale Thermophysical Engineering</i> , 2005, 9, 99-118.	1.2	35
87	NONEQUILIBRIUM ELECTRONS AND PHONONS IN THIN FILM THERMIONIC COOLERS. <i>Microscale Thermophysical Engineering</i> , 2004, 8, 91-100.	1.2	22
88	Improved Thermoelectric Power Factor in Metal-Based Superlattices. <i>Physical Review Letters</i> , 2004, 92, 106103.	2.9	412
89	Electronic and thermoelectric transport in semiconductor and metallic superlattices. <i>Journal of Applied Physics</i> , 2004, 95, 1233-1245.	1.1	138
90	Experimental Characterization and Modeling of InP-based Microcoolers. <i>Materials Research Society Symposia Proceedings</i> , 2003, 793, 87.	0.1	6

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91	Cooling Power Density of SiGe/Si Superlattice Micro Refrigerators. Materials Research Society Symposia Proceedings, 2003, 793, 124.	0.1	8
92	High Cooling Power Density of SiGe/Si Superlattice Microcoolers. Materials Research Society Symposia Proceedings, 2001, 691, 1.	0.1	3