Muhammad Aftab Rafiq

List of Publications by Year
in descending order

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101	2,029	201674	289244
papers	citations	27 h-index	40 g-index

102	102	102	2609
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Investigation of transport behavior in Ba doped BiFeO3. Ceramics International, 2012, 38, 3829-3834.	4.8	154
2	Two-dimensional SnS nanoflakes: synthesis and application to acetone and alcohol sensors. RSC Advances, 2017, 7, 21556-21566.	3.6	72
3	Charge injection and trapping in silicon nanocrystals. Applied Physics Letters, 2005, 87, 182101.	3.3	66
4	Temperature dependent transport and dielectric properties of cadmium titanate nanofiber mats. AIP Advances, 2013, 3, .	1.3	62
5	Enhancement in the multiferroic properties of BiFeO3 by charge compensated aliovalent substitution of Ba and Nb. AIP Advances, 2014, 4, .	1.3	61
6	Semiconductor to metallic transition and polaron conduction in nanostructured cobalt ferrite. Journal Physics D: Applied Physics, 2011, 44, 165404.	2.8	54
7	Excellent humidity sensing properties of cadmium titanate nanofibers. Ceramics International, 2013, 39, 457-462.	4.8	52
8	TiO2 nanoparticles and silicon nanowires hybrid device: Role of interface on electrical, dielectric, and photodetection properties. Applied Physics Letters, 2012, 101, .	3.3	50
9	Reduced conductivity and enhancement of Debye orientational polarization in lanthanum doped cobalt ferrite nanoparticles. Physica B: Condensed Matter, 2011, 406, 4393-4399.	2.7	48
10	Hopping conduction in size-controlled Si nanocrystals. Journal of Applied Physics, 2006, 100, 014303.	2.5	46
11	Structural, thermal, and antibacterial properties of chitosan/ZnO composites. Polymer Composites, 2014, 35, 79-85.	4.6	46
12	Elastic properties of perovskite-type hydrides LiBeH3 and NaBeH3 for hydrogen storage. International Journal of Hydrogen Energy, 2017, 42, 10038-10046.	7.1	45
13	Charge conduction and relaxation in MoS2 nanoflakes synthesized by simple solid state reaction. Journal of Applied Physics, 2013, 114, .	2.5	44
14	Charge carrier transport mechanisms in perovskite CdTiO3 fibers. AIP Advances, 2014, 4, .	1.3	44
15	Dielectric and transport properties of bismuth sulfide prepared by solid state reaction method. Journal of Applied Physics, 2013, 113, .	2.5	42
16	Impedance spectroscopy and investigation of conduction mechanism in BaMnO3 nanorods. Physica B: Condensed Matter, 2011, 406, 309-314.	2.7	39
17	Electrospun titanium dioxide nanofiber humidity sensors with high sensitivity. Ceramics International, 2012, 38, 2437-2441.	4.8	39
18	Electrical conduction mechanism in ZnS nanoparticles. Journal of Alloys and Compounds, 2014, 612, 64-68.	5.5	38

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19	Carrier transport mechanisms in semiconductor nanostructures and devices. Journal of Semiconductors, 2018, 39, 061002.	3.7	38
20	Temperature induced delocalization of charge carriers and metallic phase in Co0.6Sn0.4Fe2O4 nanoparticles. Journal of Applied Physics, 2012, 112, .	2.5	37
21	Synthesis of polypyrrole nano/microspheres using cobalt(III) as an oxidizing agent and its ammonia sensing behavior. Macromolecular Research, 2016, 24, 596-601.	2.4	36
22	Identifying defect-related quantum emitters in monolayer WSe2. Npj 2D Materials and Applications, 2020, 4, .	7.9	35
23	Transport characteristics and colossal dielectric response of cadmium sulfide nanoparticles. Journal of Applied Physics, 2013, 114, .	2.5	32
24	First principles study of structural, electronic and magnetic properties of ferromagnetic Bi2Fe4O9. Journal of Alloys and Compounds, 2015, 624, 131-136.	5.5	32
25	Tailoring oxygen sensing characteristics of Co3O4 nanostructures through Gd doping. Ceramics International, 2020, 46, 9498-9506.	4.8	31
26	Influence of nanocrystal size on the transport properties of Si nanocrystals. Journal of Applied Physics, 2008, 104, .	2.5	30
27	Room temperature single electron charging in single silicon nanochains. Journal of Applied Physics, 2008, 103, 053705.	2.5	27
28	Association of microstructure and electric heterogeneity in BiFeO3. Materials Chemistry and Physics, 2013, 143, 256-262.	4.0	27
29	The enhancement in photocatalytic activity of bismuth modified silica and bismuth silicate nanofibers. Catalysis Communications, 2014, 49, 39-42.	3.3	23
30	Electronic transport in silicon nanocrystals and nanochains. Microelectronic Engineering, 2009, 86, 456-466.	2.4	22
31	Enhanced and persistent photoconductivity in vertical silicon nanowires and ZnS nanoparticles hybrid devices. Applied Physics Letters, 2012, 101, .	3.3	22
32	Enhanced electrical and dielectric properties of polymer covered silicon nanowire arrays. Applied Physics Letters, 2012, 101, .	3.3	21
33	Investigation of Change in Surface Area and Grain Size of Cadmium Titanate Nanofibers upon Annealing and Their Effect on Oxygen Sensing. ACS Applied Materials & Interfaces, 2014, 6, 4542-4549.	8.0	21
34	Pressure-induced changes in the electronic structure and enhancement of the thermoelectric performance of SnS₂: a first principles study. RSC Advances, 2017, 7, 38834-38843.	3.6	21
35	Investigation of dielectric relaxation behavior of electrospun titanium dioxide nanofibers using temperature dependent impedance spectroscopy. Ceramics International, 2013, 39, 1775-1783.	4.8	20
36	An SOI CMOS-Based Multi-Sensor MEMS Chip for Fluidic Applications. Sensors, 2016, 16, 1608.	3.8	20

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37	Determination of density of states, conduction mechanisms and dielectric properties of nickel disulfide nanoparticles. AIP Advances, 2016, 6, .	1.3	18
38	Synthesis and optimization of barium manganate nanofibers by electrospinning. Ceramics International, 2012, 38, 1441-1445.	4.8	17
39	Fabrication of cadmium titanate nanofibers via electrospinning technique. Ceramics International, 2012, 38, 3361-3365.	4.8	17
40	Humidity Effect on Transport Properties of Titanium Dioxide Nanoparticles. Journal of Materials Science and Technology, 2014, 30, 748-752.	10.7	17
41	Development of High-Performance Bismuth Sulfide Nanobelts Humidity Sensor and Effect of Humid Environment on its Transport Properties. ACS Omega, 2019, 4, 2030-2039.	3.5	17
42	Enhancement of electrical conductivity and dielectric constant in Sn-doped nanocrystlline CoFe2O4. Journal of Nanoparticle Research, 2013, 15, 1.	1.9	16
43	The role of surface states in modification of carrier transport in silicon nanowires. Journal of Applied Physics, 2013, 113, .	2.5	16
44	Comparison of different phases of bismuth silicate nanofibers for photodegradation of organic dyes. International Journal of Environmental Science and Technology, 2016, 13, 1497-1504.	3.5	16
45	Effect of titanium doping on conductivity, density of states and conduction mechanism in ZnO thin film. Applied Physics A: Materials Science and Processing, 2019, 125, 1.	2.3	16
46	Study of electric conduction mechanisms in bismuth silicate nanofibers. Scientific Reports, 2020, 10, 2775.	3.3	16
47	Comparative Analysis of Ti, Ni, and Au Electrodes on Characteristics of TiO2 Nanofibers for Humidity Sensor Application. Journal of Materials Science and Technology, 2013, 29, 411-414.	10.7	15
48	Analysis of electro-active regions and conductivity of BaMnO3 ceramic by impedance spectroscopy. Applied Physics A: Materials Science and Processing, 2014, 115, 1281-1289.	2.3	15
49	Oxygen sensing and transport properties of nanofibers of silica, bismuth doped silica and bismuth silicate prepared via electrospinning. Sensors and Actuators B: Chemical, 2014, 192, 429-438.	7.8	15
50	Ultrasound promoted synthesis and properties of chitosan nanocomposites containing carbon nanotubes and silver nanoparticles. European Polymer Journal, 2018, 105, 297-303.	5.4	15
51	Effect of incorporation of zinc sulfide nanoparticles on carrier transport in silicon nanowires. Physica E: Low-Dimensional Systems and Nanostructures, 2012, 45, 201-206.	2.7	14
52	Silica nanofibers based impedance type humidity detector prepared on glass substrate. Vacuum, 2013, 87, 1-6.	3.5	14
53	Size-manipulation, compaction and electrical properties of barium manganite nanorods synthesized via the CHM method. Progress in Natural Science: Materials International, 2013, 23, 388-394.	4.4	13
54	SOI CMOS multi-sensors MEMS chip for aerospace applications. , 2014, , .		13

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55	Effect of different electrodes on the transport properties of ZnO nanofibers under humid environment. AIP Advances, 2015, 5, .	1.3	13
56	Ferroelectric, dielectric and electrical behavior of two-dimensional lead sulphide nanosheets. Advances in Natural Sciences: Nanoscience and Nanotechnology, 2017, 8, 045010.	1.5	12
57	Richardson-Schottky transport mechanism in ZnS nanoparticles. AIP Advances, 2016, 6, .	1.3	11
58	Effect of electrochemical reduction on the structural and electrical properties of anodic TiO 2 nanotubes. Current Applied Physics, 2018, 18, 297-303.	2.4	11
59	Enhancement of degradation of mordant orange, safranin-O and acridine orange by CuS nanoparticles in the presence of H2O2 in dark and in ambient light. Journal of Materials Science: Materials in Electronics, 2018, 29, 19180-19191.	2.2	11
60	Field-dependant hopping conduction in silicon nanocrystal films. Journal of Applied Physics, 2008, 104, .	2.5	10
61	Photodetection and transport properties of surface capped silicon nanowires arrays with polyacrylic acid. AIP Advances, 2013, 3, 082111.	1.3	10
62	Large g factor in bilayer WS2 flakes. Applied Physics Letters, 2019, 114, .	3.3	10
63	Influence of Cr doping on Schottky barrier height and visible light detection of ZnO thin films deposited by magnetron sputtering. Micro and Nano Engineering, 2019, 2, 48-52.	2.9	10
64	Investigation of intrinsic electrical properties of cerium doped lithium cobalt oxide, nanostructured materials. AIP Advances, 2018, 8, .	1.3	9
65	The role of biaxial strain and pressure on the thermoelectric performance of SnSe₂: a first principles study. Semiconductor Science and Technology, 2019, 34, 055009.	2.0	9
66	Many-body effect of mesoscopic localized states in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoS</mml:mi><mml:mn>2</mml:mn></mml:msub></mml monolayer. Physical Review Materials, 2019, 3, .	2.4	8
67	Tailoring transport and dielectric properties by surface passivation of silicon nanowires with Polyacrylic acid/TiO2 nanoparticles composite. Microelectronic Engineering, 2014, 119, 141-145.	2.4	7
68	Zinc modified cadmium titanite nanoparticles: Electrical and room temperature methanol sensing properties. Ceramics International, 2018, 44, 4751-4757.	4.8	7
69	Selective Oxygen Sensor Prepared Using Ni-doped Zinc Ferrite Nanoparticles. Journal of Electronic Materials, 2019, 48, 5677-5685.	2.2	7
70	Charge injection and trapping in TiO2 nanoparticles decorated silicon nanowires arrays. Applied Physics Letters, 2015, 106, 073101.	3.3	6
71	Temperature dependent dielectric and electric modulus properties of ZnS nano particles. Semiconductor Science and Technology, 2017, 32, 035008.	2.0	6
72	Ferroelectric, dielectric properties and electrical conduction mechanism of epitaxial B1-xDyxFeO3 (xâ€¯=â€¯0.05, 0.075, 0.1, 0.125) thin films prepared by pulsed laser deposition. Ceramics International, 2018, 44, 22574-22582.	4.8	6

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73	Two-dimensional molybdenum disulphide nanoflakes synthesized by liquid-solid phase reaction method: regenerative photocatalytic performance under UV-visible light irradiation by advance oxidation process. Materials Research Express, 2018, 5, 056206.	1.6	6
74	Development of high performance Bi₅Ti₃FeO₁₅layered perovskite oxygen gas sensor and its dielectric behavior. Materials Research Express, 2019, 6, 115028.	1.6	6
75	Nickel Manganese Oxide Nanoparticles Based Humidity Sensors. Journal of Electronic Materials, 2019, 48, 2289-2293.	2.2	6
76	Fabrication of vertical nanopillar devices. Microelectronic Engineering, 2007, 84, 1515-1518.	2.4	5
77	Effect of modifiers on structural and optical properties of Titania (TiO<inf>2</inf>) nanoparticles. , 2011, , .		5
78	High ON/OFF ratio and multimode transport in silicon nanochains field effect transistors. Applied Physics Letters, 2012, 100, 113108.	3.3	5
79	Synthesis of randomly oriented self-assembled WO3 and WO3-WS2 nanoplates for selective oxygen sensing. Journal of the Australian Ceramic Society, 2021, 57, 1231-1240.	1.9	5
80	Sustainable chemical processing of flowing wastewater through microwave energy. Chemosphere, 2022, 287, 132035.	8.2	5
81	Study of electric conduction mechanisms, dielectric relaxation behaviour and density of states in zinc sulphide nanoparticles. Journal of Taibah University for Science, 2021, 15, 1144-1155.	2.5	5
82	Conduction Bottleneck in Silicon Nanochain Single Electron Transistors Operating at Room Temperature. Japanese Journal of Applied Physics, 2012, 51, 025202.	1.5	4
83	Silanization of ZnO nanofibers by tetraethoxysilane. Journal of Applied Polymer Science, 2017, 134, 45378.	2.6	4
84	Conduction in nanostructured La1â^'x Sr x FeO3 (0 â‰¤ x â‰¤ 1). Materials Science-Poland, 2012, 30, 240-247.	1.0	3
85	The potential of PEGylated BaMnO₃nanoparticles as drug delivery agents. Laser Physics Letters, 2013, 10, 025603.	1.4	3
86	Correlation between magnetic and electrical properties of Co0.6Sn0.4Fe2O4 nanoparticles. Journal of Nanoparticle Research, 2014, 16, 1.	1.9	3
87	Improvement in Thermoelectric Performance of SnS Due to Electronic Structure Modification Under Biaxial Strain. Journal of Electronic Materials, 2018, 47, 6443-6449.	2.2	3
88	Humidity and selective oxygen detection by Ag2S nanoparticles gas sensor. Journal of Materials Science: Materials in Electronics, 2019, 30, 10117-10127.	2.2	3
89	Effect of Pressure on Mechanical and Thermal Properties of SnSe2. International Journal of Thermophysics, 2021, 42, 1.	2.1	3
90	Effect of surface modification and H₂ reduction of WO₃ nanoparticles in Methylene Blue photodegradation. Surface Topography: Metrology and Properties, 2020, 8, 045012.	1.6	3

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91	Electrolyte-induced modulation of electronic transport in the presence of surface charge impurities on bilayer graphene. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1700156.	1.8	2
92	Effect of Fe Doping on Magnetic Properties and Lattice Structure of Ferromagnetic EuO. Journal of Superconductivity and Novel Magnetism, 2017, 30, 2891-2899.	1.8	2
93	Electro-tunable optical cavity filters in near-infrared regime. Optik, 2021, 225, 165714.	2.9	2
94	Effect on electrical and magnetic behavior of Alâ€“Cuâ€“Fe quasicrystals during surface leaching. Applied Physics A: Materials Science and Processing, 2021, 127, 1.	2.3	2
95	Evidence of Pool-Frenkel conduction mechanism in Sr-doped lanthanum ferrite La<inf>1−x</inf>Sr<inf>x</inf>FeO<inf>3</inf>(0≤x≤1) system. , 2011, , .		1
96	A Comparison of the Electrical and Thermal Behavior of ZrO₂-Ni Interpenetrating Phase Composite Produced by Microwave and Conventional Sintering. Key Engineering Materials, 0, 510-511, 293-300.	0.4	1
97	Synthesis and Characterization of Titanium Dioxide Nano Particles and their Application in Environmental Remediation of Textile Dyes. Asian Journal of Chemistry, 2013, 25, 9766-9774.	0.3	1
98	Single-electron pumping in a ZnO single-nanobelt quantum dot transistor. Science China: Physics, Mechanics and Astronomy, 2020, 63, 1.	5.1	1
99	Structural and electrical properties of Zinc sulfide nanoparticles. , 2011, , .		0
100	Thermal conductivity enhancement of ethylene glycol based nanofluids. , 2016, , .		0
101	Facile chemical strategy to synthesize Ag@polypyrrole microarrays and investigating its anisotropic effect on polymer conductivity. Materials Science-Poland, 2019, 37, 563-569.	1.0	0