V. S. Nageswara Rao Sunkaranam

List of Publications by Year
in descending order

76	842	471477 17	552766 26
papers	citations	h-index	g-index

76	76	76	726
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Dopant segregation and giant magnetoresistance in manganese-doped germanium. Physical Review B, 2007, 75, .	3.2	88
2	Femtosecond Ablation of Silicon in Acetone: Tunable Photoluminescence from Generated Nanoparticles and Fabrication of Surface Nanostructures. Journal of Physical Chemistry C, 2014, 118, 7139-7151.	3.1	53
3	Femtosecond Laser-Induced, Nanoparticle-Embedded Periodic Surface Structures on Crystalline Silicon for Reproducible and Multi-utility SERS Platforms. ACS Omega, 2018, 3, 18420-18432.	3.5	46
4	Synthesis of ultra-small silicon nanoparticles by femtosecond laser ablation of porous silicon. Journal of Materials Science, 2015, 50, 1666-1672.	3.7	31
5	Three-dimensional hybrid silicon nanostructures for surface enhanced Raman spectroscopy based molecular detection. Journal of Applied Physics, 2018, 123, .	2.5	31
6	Vibrational Lifetimes and Frequency-Gap Law of Hydrogen Bending Modes in Semiconductors. Physical Review Letters, 2006, 96, 035501.	7.8	30
7	SHI induced effects on the electrical and optical properties of HfO2 thin films deposited by RF sputtering. Nuclear Instruments & Methods in Physics Research B, 2016, 379, 230-234.	1.4	25
8	Electronic excitation induced defect dynamics in HfO2 based MOS devices investigated by in-situ electrical measurements. Applied Physics Letters, 2018, 112, .	3.3	25
9	Synthesis of CuO hollow nanoparticles using laser ablation: effect of fluence and solvents. Applied Physics A: Materials Science and Processing, 2020, 126, 1.	2.3	25
10	Synthesis, characterization and radiation damage studies of high-k dielectric (HfO₂) films for MOS device applications. Radiation Effects and Defects in Solids, 2015, 170, 207-217.	1.2	22
11	Ion induced crystallization and grain growth of hafnium oxide nano-particles in thin-films deposited by radio frequency magnetron sputtering. Journal Physics D: Applied Physics, 2017, 50, 505301.	2.8	21
12	Gamma irradiation-induced effects on the electrical properties of HfO₂-based MOS devices. Radiation Effects and Defects in Solids, 2016, 171, 77-86.	1.2	20
13	Multi-functional gallium arsenide nanoparticles and nanostructures fabricated using picosecond laser ablation. Applied Surface Science, 2022, 589, 152802.	6.1	20
14	Silicon Nanostructures for Molecular Sensing: A Review. ACS Applied Nano Materials, 2022, 5, 4550-4582.	5.0	20
15	Structural and optical properties of porous silicon prepared by anodic etching of irradiated silicon. Nuclear Instruments & Methods in Physics Research B, 2013, 315, 188-191.	1.4	18
16	Grain fragmentation and phase transformations in hafnium oxide induced by swift heavy ion irradiation. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	17
17	Trace level detection of explosives and pesticides using robust, low-cost, free-standing silver nanoparticles decorated porous silicon. Optics Express, 2021, 29, 30045.	3.4	17
18	dE/dx measurements for heavy ions with Z=6â€“29 in polycarbonate. Nuclear Instruments & Methods in Physics Research B, 2002, 194, 7-14.	1.4	16

#	Article	IF	Citations
19	Studies on linear, nonlinear optical and excited state dynamics of silicon nanoparticles prepared by picosecond laser ablation. AIP Advances, 2015, 5, .	1.3	16
20	Robust and cost-effective silver dendritic nanostructures for SERS-based trace detection of RDX and ammonium nitrate. RSC Advances, 2020, 10, 44747-44755.	3.6	16
21	Studies of electronic sputtering of fullerene under swift heavy ion impact. Nuclear Instruments & Methods in Physics Research B, 2002, 190, 169-172.	1.4	15
22	Ion beam studies of Hafnium based alternate high-k dielectric films deposited on silicon. Nuclear Instruments & Methods in Physics Research B, 2014, 332, 389-392.	1.4	14
23	Ion induced intermixing and consequent effects on the leakage currents in HfO2/SiO2/Si systems. Applied Physics A: Materials Science and Processing, 2017, 123, 1.	2.3	14
24	Solvents Effect on the Morphology and Stability of Cu/CuO Nanoparticles Synthesized at High Fluence Laser Ablation. ChemistrySelect, 2019, 4, 10471-10482.	1.5	14
25	Radiation tolerance, charge trapping, and defect dynamics studies of ALD-grown Al/HfO2/Si nMOSCAPs. Journal of Materials Science: Materials in Electronics, 2020, 31, 3312-3322.	2.2	14
26	Hafnium oxide nanoparticles fabricated by femtosecond laser ablation in water. Applied Physics A: Materials Science and Processing, 2019, 125, 1.	2.3	13
27	Development of a large area two-dimensional position sensitive Î”Eâ^'E detector telescope for material analysis. Nuclear Instruments & Methods in Physics Research B, 2003, 212, 545-550.	1.4	11
28	Depth dependent modification of optical constants arising from H+ implantation in n-type 4H-SiC measured using coherent acoustic phonons. APL Photonics, 2016, 1, .	5.7	11
29	Influence of the bottom metal electrode and gamma irradiation effects on the performance of HfO₂-based RRAM devices. Radiation Effects and Defects in Solids, 2019, 174, 66-75.	1.2	11
30	Fabrication of porous silicon based tunable distributed Bragg reflectors by anodic etching of irradiated silicon. Nuclear Instruments & Methods in Physics Research B, 2015, 358, 105-111.	1.4	10
31	Ion beam studies in strained layer superlattices. Nuclear Instruments & Methods in Physics Research B, 2002, 193, 319-323.	1.4	9
32	Ion beam characterization and engineering of strain in semiconductor multi-layers. Nuclear Instruments & Methods in Physics Research B, 2003, 212, 442-450.	1.4	9
33	Effects of swift heavy ion irradiation on the performance of HfO2-based resistive random access memory devices. Journal of Materials Science: Materials in Electronics, 2021, 32, 2973-2986.	2.2	9
34	Effect of energetic ions on the stability of bond-center hydrogen in silicon. Physical Review B, 2007, 75, .	3.2	8
35	150MeV Au ion induced modification of Si nanoparticles prepared by laser ablation. Nuclear Instruments & Methods in Physics Research B, 2014, 333, 99-105.	1.4	8
36	Effects of ion irradiation on the structural and electrical properties of HfO2/SiON/Si p-metal oxide semiconductor capacitors. Thin Solid Films, 2019, 682, 156-162.	1.8	8

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37	Structural investigations of picosecond laser ablated GaAs nanoparticles in different liquids. Nano Structures Nano Objects, 2020, 23, 100509.	3.5	8
38	Hafnia-based resistive switching devices for non-volatile memory applications and effects of gamma irradiation on device performance. Radiation Effects and Defects in Solids, 2018, 173, 239-249.	1.2	7
39	Blue luminescent silicon nanoparticles synthesized from free-standing porous silicon layer by ultrasonic treatment. Optical Materials, 2015, 48, 66-70.	3.6	6
40	Effect of growth rate on crystallization of HfO2 thin films deposited by RF magnetron sputtering. AIP Conference Proceedings, 2016, , .	0.4	6
41	Swift heavy ion assisted growth of silver nanoparticles embedded in hafnium oxide matrix. Journal of Applied Physics, 2021, 130, .	2.5	6
42	Ion channeling, high resolution x-ray diffraction and Raman spectroscopy in strained quantum wells. Journal of Applied Physics, 2001, 90, 2824-2830.	2.5	5
43	One dimensional silicon nanostructures prepared by oxidized porous silicon under heat treatment. Applied Surface Science, 2014, 320, 334-338.	6.1	5
44	Fabrication of HfO2 based MOS and RRAM devices: A study of thermal annealing effects on these devices. AIP Conference Proceedings, 2019, , .	0.4	5
45	Laser annealing of Au/HfO2 bi-layers to fabricate Au nanoparticles without altering the phase of HfO2 for applications in SERS and memory devices. Journal of Materials Science: Materials in Electronics, 2022, 33, 6657-6669.	2.2	5
46	Resistivity dependence on nanostructure formation in picosecond ablation of silicon and SERS-based sensing applications. Journal Physics D: Applied Physics, 2022, 55, 405103.	2.8	5
47	Quantum description for the effects of strained layered superlattices on channeling radiation. Nuclear Instruments & Methods in Physics Research B, 2003, 202, 312-316.	1.4	4
48	Energy dependence relations for positron channeling critical angle and dechanneling probability due to stacking faults. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 2312-2317.	1.4	4
49	Ion beam-mixing effects in nearly lattice-matched AlInN/GaN heterostructures by swift heavy ion irradiation. Radiation Effects and Defects in Solids, 2012, 167, 506-511.	1.2	4
50	Synthesis and tailoring of GaN nanocrystals at room temperature by RF magnetron sputtering. Radiation Effects and Defects in Solids, 2012, 167, 659-665.	1.2	4
51	Effects of growth parameters on HfO₂ thin-films deposited by RF Magnetron sputtering. Radiation Effects and Defects in Solids, 2022, 177, 15-26.	1.2	4
52	Ion beam induced modification of lattice strains in In0.1Ga0.9As/GaAs system. Nuclear Instruments & Methods in Physics Research B, 2003, 212, 473-476.	1.4	3
53	Fabrication and characterization of GaAs nanoparticles achieved using femtosecond laser ablation. Materials Today: Proceedings, 2020, 33, 2385-2389.	1.8	3
54	Strain measurements of semiconductor multilayers by ion channeling, high resolution XRD and Raman spectroscopy. AIP Conference Proceedings, 2001, , .	0.4	2

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55	Channeling radiation from relativistic electrons â€“ Study of stacking faults and dislocations. Nuclear Instruments & Methods in Physics Research B, 2002, 193, 188-191.	1.4	2
56	Study of Ag ion irradiation effects on the oxygen stoichiometry of La-2125-type superconducting thin films using ERDA. Radiation Measurements, 2003, 36, 733-736.	1.4	2
57	Ion Beam Studies Of Semiconductor Nanoparticles For The Integration Of Optoelectronic Devices. , 2011, , .		2
58	Energetic ion induced desorption of hydrogen from porous silicon studied by on-line elastic recoil detection analysis. Microporous and Mesoporous Materials, 2017, 246, 81-88.	4.4	2
59	Metal nanoparticles in dielectric media: Physical vapor deposited HfO2 & Ag multilayers for MOS device and SPR applications. AIP Conference Proceedings, 2020, , .	0.4	2
60	Effects of Initial Grain Size and Laser Parameters on HfO2 Nanoparticles Prepared Using Femtosecond Laser Ablation in Liquids. Journal of Electronic Materials, 2021, 50, 1742-1751.	2.2	2
61	ION IRRADIATION EFFECTS AND ION BEAM STUDIES OF SEMICONDUCTOR MULTILAYERS. , 2003, , .		2
62	200ÂMeV Ag ion irradiation mediated green synthesis and self assembly of silver nanoparticles into dendrites for enhanced SERS applications. Radiation Physics and Chemistry, 2022, 193, 109966.	2.8	2
63	Automation of Channeling Experiment for Lattice Strain Measurements Using High Energy Ion Beams. AIP Conference Proceedings, 2003, , .	0.4	1
64	Ion Beam Studies of Strains/Defects in Semiconductor Multilayers. AIP Conference Proceedings, 2003, , .	0.4	1
65	Reconfiguration and dissociation of bonded hydrogen in silicon by energetic ions. Physical Review B, 2011, 83, .	3.2	1
66	120 MeV Ag ion induced effects in Au/HfO2/Si MOSCAPs. AIP Conference Proceedings, 2018, , .	0.4	1
67	Medium Energy Carbon and Nitrogen Ion Beam Induced Modifications in Charge Transport, Structural and Optical Properties of Ni/Pd/n-GaN Schottky Barrier Diodes. Materials, 2020, 13, 1299.	2.9	1
68	Ion Beams for synthesis and modification of nanostructures in semiconductors. Materials Research Society Symposia Proceedings, 2011, 1354, 79.	0.1	0
69	RBS, XRD, Raman and AFM Studies of Microwave Synthesized Ge Nanocrystals. Materials Research Society Symposia Proceedings, 2011, 1354, 141.	0.1	0
70	Structural Changes Induced by Swift Heavy Ion Beams in tensile strained Al (1-x)InxN /GaN Hetero-structures. Materials Research Society Symposia Proceedings, 2011, 1354, 115.	0.1	0
71	Anharmonic effects on positron channeling angular scans and dechanneling due to stacking faults and platelets. Radiation Effects and Defects in Solids, 2012, 167, 594-606.	1.2	0
72	Ion induced effects on the dissociation of silicon nanoparticles. AIP Conference Proceedings, 2017, , .	0.4	0

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73	Formation and local heating effects on the vibrational properties of H2* defects in crystalline silicon. AIP Conference Proceedings, 2018, , .	0.4	0
74	Effects of thermal annealing and gamma irradiation on HfO2 thin films deposited on GaAs. AIP Conference Proceedings, 2019, , .	0.4	0
75	Ar Ion Irradiation Effects on the Characteristics of Ru|Pt|n-GaN Schottky Barrier Diodes. Semiconductors, 2020, 54, 1641-1649.	0.5	0
76	120â€‰MeV Ag ion irradiation induced intermixing, grain fragmentation in HfO₂/GaO_x thin films and consequent effects on the electrical properties of HfO₂/GaO_x/Si-based MOS capacitors. Radiation Effects and Defects in Solids, 2020, 175, 150-159.	1.2	0