Mulpuri V Rao

List of Publications by Year
in descending order

119	2,739	212478	263392
papers	citations	28 h-index	45 g-index

119	119	119	2736
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Electrical and Low Frequency Noise Characterization of Graphene Chemical Sensor Devices Having Different Geometries. Sensors, 2022, 22, 1183.	2.1	3
2	Identification and quantification of gases and their mixtures using GaN sensor array and artificial neural network. Measurement Science and Technology, 2021, 32, 055111.	1.4	9
3	Back-Gate GaN Nanowire-Based FET Device for Enhancing Gas Selectivity at Room Temperature. Sensors, 2021, 21, 624.	2.1	11
4	Reliable anatase-titania nanoclusters functionalized GaN sensor devices for UV assisted NO₂ gas-sensing in ppb level. Nanotechnology, 2020, 31, 155504.	1.3	23
5	Gallium Nitride (GaN) Nanostructures and Their Gas Sensing Properties: A Review. Sensors, 2020, 20, 3889.	2.1	48
6	Accelerated Stress Tests and Statistical Reliability Analysis of Metal-Oxide/GaN Nanostructured Sensor Devices. IEEE Transactions on Device and Materials Reliability, 2020, 20, 742-747.	1.5	6
7	Nanowire-Based Sensor Array for Detection of Cross-Sensitive Gases Using PCA and Machine Learning Algorithms. IEEE Sensors Journal, 2020, 20, 6020-6028.	2.4	57
8	Scalable metal oxide functionalized GaN nanowire for precise SO2 detection. Sensors and Actuators B: Chemical, 2020, 318, 128223.	4.0	26
9	Functionalization of GaN Nanowire Sensors With Metal Oxides: An Experimental and DFT Investigation. IEEE Sensors Journal, 2020, 20, 7138-7147.	2.4	16
10	Metal-oxide/GaN based NO2 Gas detection at room temperature: an experimental and density functional theory investigation. , 2020, , .		5
11	Recent Advances in Electrochemical Sensors for Detecting Toxic Gases: NO2, SO2 and H2S. Sensors, 2019, 19, 905.	2.1	223
12	THz Imaging for Failure Analysis of RF Circuit. ECS Journal of Solid State Science and Technology, 2017, 6, S3021-S3024.	0.9	1
13	Fabrication and comparative study of DC and low frequency noise characterization of GaN/AlGaN based MOS-HEMT and HEMT. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, .	0.6	17
14	Flexible Thinâ€Film Electrodes on Porous Polyester Membranes for Wearable Sensors. Advanced Engineering Materials, 2017, 19, 1600592.	1.6	8
15	An Antimony Selenide Molecular Ink for Flexible Broadband Photodetectors. Advanced Electronic Materials, 2016, 2, 1600182.	2.6	31
16	Dislocation Reduction in HgCdTe Mesa Structures Formed on CdTe/Si. Journal of Electronic Materials, 2016, 45, 4668-4673.	1.0	3
17	Self-powered p-NiO/n-ZnO heterojunction ultraviolet photodetectors fabricated on plastic substrates. APL Materials, 2015, 3, 106101.	2.2	105
18	Remarks on the room temperature impurity band conduction in heavily Al+ implanted 4H-SiC. Journal of Applied Physics, 2015, 118, .	1.1	20

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19	Low Temperature, Rapid Thermal Cycle Annealing of HgCdTe Grown on CdTe/Si. Journal of Electronic Materials, 2015, 44, 1321-1326.	1.0	5
20	Thermal cycle annealing and its application to arsenic-ion implanted HgCdTe. , 2014, , .		0
21	Temperature dependent current-voltage characteristics of microwave annealed Al⁺ implanted 4H-SiC p⁺-i-n diodes. , 2014, , .		1
22	Microwave Annealing of High Dose Al+-implanted 4H-SiC: Towards Device Fabrication. Journal of Electronic Materials, 2014, 43, 843-849.	1.0	6
23	Solution-based functionalization of gallium nitride nanowires for protein sensor development. Surface Science, 2014, 627, 23-28.	0.8	15
24	Comparison of the Schaake and Benson Etches to Delineate Dislocations in HgCdTe Layers. Journal of Electronic Materials, 2013, 42, 3097-3102.	1.0	10
25	Nitro-Aromatic Explosive Sensing Using GaN Nanowire-Titania Nanocluster Hybrids. IEEE Sensors Journal, 2013, 13, 1883-1888.	2.4	28
26	Dielectrophoretic trapping of P19 cells on indium tin oxide based microelectrode arrays. , 2013, , .		1
27	Selective streptavidin bioconjugation on silicon and silicon carbide nanowires for biosensor applications. Journal of Materials Research, 2013, 28, 68-77.	1.2	30
28	High Dose Al⁺ Implanted and Microwave Annealed 4H-SiC. Materials Science Forum, 2012, 717-720, 817-820.	0.3	0
29	Immobilization of streptavidin on 4Hâ€“SiC for biosensor development. Applied Surface Science, 2012, 258, 6056-6063.	3.1	107
30	UV-assisted alcohol sensing using SnO2 functionalized GaN nanowire devices. Sensors and Actuators B: Chemical, 2012, 171-172, 499-507.	4.0	52
31	High-Dose Phosphorus-Implanted 4H-SiC: Microwave and Conventional Post-Implantation Annealing at Temperatures â‰¥1700Â°C. Journal of Electronic Materials, 2012, 41, 457-465.	1.0	18
32	Highly selective GaN-nanowire/TiO₂-nanocluster hybrid sensors for detection of benzene and related environment pollutants. Nanotechnology, 2011, 22, 295503.	1.3	70
33	Immobilization of proteins on semiconductor nanowires for biosensor development. , 2011, , .		0
34	Microwave Annealing of Very High Dose Aluminum-Implanted 4H-SiC. Applied Physics Express, 2011, 4, 111301.	1.1	30
35	Effect of Cycle Annealing Parameters on Dislocation Density Reduction for HgCdTe on Si. Journal of Electronic Materials, 2011, 40, 1727-1732.	1.0	23
36	Microwave Annealing of Ion Implanted 4H-SiC. , 2011, , .		0

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37	Selective nano-devices for the detection of nitroaromatic explosive compounds. , 2011, , .		0
38	Improving Doping Efficiency of P⁺ Implanted Ions in 4H-SiC. Materials Science Forum, 2011, 679-680, 393-396.	0.3	4
39	Ex Situ Thermal Cycle Annealing of Molecular Beam Epitaxy Grown HgCdTe/Si Layers. Journal of Electronic Materials, 2010, 39, 43-48.	1.0	18
40	Dislocation Reduction of HgCdTe/Si Through ExÂSitu Annealing. Journal of Electronic Materials, 2010, 39, 967-973.	1.0	23
41	Microwave annealing of Mg-implanted andin situBe-doped GaN. Journal of Applied Physics, 2010, 108, 083103.	1.1	31
42	Effects of microwave annealing on crystalline quality of ion-implanted SiC epitaxial layers. Surface and Coatings Technology, 2009, 203, 2625-2627.	2.2	10
43	Dielectrophoretic capture of mammalian cells using transparent indium tin oxide electrodes in microfluidic systems. Electrophoresis, 2008, 29, 5047-5054.	1.3	22
44	Ultra-low resistivity Al+ implanted 4Hâ€“SiC obtained by microwave annealing and a protective graphite cap. Solid-State Electronics, 2008, 52, 140-145.	0.8	20
45	Stability and 2-D Simulation Studies of Avalanche Breakdown in 4H-SiC DMOSFETs With JTE. IEEE Transactions on Electron Devices, 2008, 55, 489-494.	1.6	15
46	Surface strain and its impact on the electrical resistivity of GaN channel in AlGaN/GaN high electron mobility transistor. Applied Physics Letters, 2008, 93, 222106.	1.5	9
47	In situ strain measurements on GaN/AlGaN Schottky diodes with variable bias. Applied Physics Letters, 2008, 93, .	1.5	4
48	Ultrahigh-temperature microwave annealing of Al+- and P+-implanted 4H-SiC. Journal of Applied Physics, 2007, 101, 073708.	1.1	38
49	Characteristics ofin situMg-doped GaN epilayers subjected to ultra-high-temperature microwave annealing using protective caps. Semiconductor Science and Technology, 2007, 22, 1151-1156.	1.0	22
50	Microwave dielectric heating of fluids in an integrated microfluidic device. Journal of Micromechanics and Microengineering, 2007, 17, 2224-2230.	1.5	75
51	Growth of Silicon Carbide Nanowires by a Microwave Heating-Assisted Physical Vapor Transport Process Using Group VIII Metal Catalysts. Chemistry of Materials, 2007, 19, 5531-5537.	3.2	79
52	Thermal instability and the growth of the InGaAsâ•AlGaAs pseudomorphic high electron mobility transistor system. Applied Physics Letters, 2007, 90, 113504.	1.5	0
53	Solid-state microwave annealing of ion-implanted 4Hâ€“SiC. Nuclear Instruments & Methods in Physics Research B, 2007, 261, 616-619.	0.6	5
54	Comparison of Solid-State Microwave Annealing with Conventional Furnace Annealing of Ion-Implanted SiC. Journal of Electronic Materials, 2007, 36, 324-331.	1.0	24

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55	Microwave power absorption in low-reflectance, complex, lossy transmission lines. Journal of Research of the National Institute of Standards and Technology, 2007, 112, 177.	0.4	15
56	Capillarity Induced Solvent-Actuated Bonding of Polymeric Microfluidic Devices. Analytical Chemistry, 2006, 78, 3348-3353.	3.2	61
57	Thermally stable Ge/Cu/Ti ohmic contacts to n-type GaN. Journal of Electronic Materials, 2006, 35, 2035-2040.	1.0	7
58	Surface modification of poly(methyl methacrylate) for improved adsorption of wall coating polymers for microchip electrophoresis. Electrophoresis, 2006, 27, 3788-3796.	1.3	55
59	Deep-level transient spectroscopy study on double implanted n+â€“p and p+â€“n 4H-SiC diodes. Journal of Applied Physics, 2004, 95, 69-75.	1.1	30
60	Transconductance frequency dispersion measurements on fully implanted 4H-SiC MESFETs. Solid-State Electronics, 2004, 48, 143-147.	0.8	11
61	Maturing ion-implantation technology and its device applications in SiC. Solid-State Electronics, 2003, 47, 213-222.	0.8	38
62	Athermal annealing of Si-implanted GaAs and InP. Journal of Applied Physics, 2003, 94, 130-135.	1.1	8
63	Fully ion implanted MESFETs in bulk semi-insulating 4Hî—¸SiC. Diamond and Related Materials, 2002, 11, 1344-1348.	1.8	9
64	Acceptor ion-implantation in SiC. Nuclear Instruments & Methods in Physics Research B, 2000, 166-167, 395-398.	0.6	1
65	Al, B, and Ga ion-implantation doping of SiC. Journal of Electronic Materials, 2000, 29, 1340-1345.	1.0	31
66	Variable-dose (1017â€“1020â€Šcmâ¯3) phosphorus ion implantation into 4Hâ€“SiC. Journal of Applied Physics, 2000, 88, 5630-5634.	1.1	17
67	Material and nâ€“p junction characteristics of As- and Sb-implanted SiC. Diamond and Related Materials, 2000, 9, 1887-1896.	1.8	4
68	Ion-implantation in bulk semi-insulating 4Hâ€“SiC. Journal of Applied Physics, 1999, 86, 752-758.	1.1	52
69	Effectiveness of AlN encapsulant in annealing ion-implanted SiC. Journal of Applied Physics, 1999, 86, 746-751.	1.1	38
70	Donor ion-implantation doping into SiC. Journal of Electronic Materials, 1999, 28, 334-340.	1.0	20
71	Material and n-p junction properties of N-, P-, and N/P-implanted SiC. Journal of Applied Physics, 1998, 83, 5118-5124.	1.1	38
72	Compensation implants in 6Hâ€“SiC. Journal of Applied Physics, 1997, 82, 4223-4227.	1.1	31

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73	Phosphorus and boron implantation in 6Hâ€“SiC. Journal of Applied Physics, 1997, 81, 6635-6641.	1.1	46
74	Nitrogen and aluminum implantation in high resistivity silicon carbide. Journal of Applied Physics, 1997, 82, 5327-5333.	1.1	34
75	Rapid thermal annealing of ion implanted 6H-SiC by microwave processing. Journal of Electronic Materials, 1997, 26, 144-150.	1.0	19
76	Ion implantation doping of OMCVD grown GaN. Journal of Electronic Materials, 1997, 26, 334-339.	1.0	14
77	Al, Al/C and Al/Si implantations in 6H-SiC. Journal of Electronic Materials, 1996, 25, 75-80.	1.0	35
78	Elevated temperature nitrogen implants in 6H-SiC. Journal of Electronic Materials, 1996, 25, 885-892.	1.0	24
79	Pâ€“N junction formation in 6H-SiC by acceptor implantation into n-type substrate. , 1996, , 333-338.		0
80	Pî—¸N junction formation in 6Hî—¸SiC by acceptor implantation into n-type substrate. Nuclear Instruments & Methods in Physics Research B, 1995, 106, 333-338.	0.6	2
81	Al and B ionâ€•implantations in 6Hâ€•and 3Câ€•SiC. Journal of Applied Physics, 1995, 77, 2479-2485.	1.1	106
82	Ion implantation into (x11)Aâ€•oriented InP and GaAs (xâ‰4). Journal of Applied Physics, 1994, 75, 7774-7778.	1.1	2
83	Ion implantation in IIIâ€“V compound semiconductors. Nuclear Instruments & Methods in Physics Research B, 1993, 79, 645-647.	0.6	30
84	Fe and Ti implants in In0.52Al0.48As. Journal of Electronic Materials, 1993, 22, 1153-1157.	1.0	7
85	MeV energy sulfur implantation in GaAs and InP. Journal of Electronic Materials, 1993, 22, 559-566.	1.0	4
86	Highly conductive buried n+ layers in Inp:fe created by MeV energy Si, S, and Si/S implantation for application to microwave devices. Journal of Electronic Materials, 1993, 22, 73-80.	1.0	4
87	MeV energy Fe and Co implants to obtain buried high resistance layers and to compensate donor implant tails in InP. Journal of Applied Physics, 1993, 73, 1126-1132.	1.1	23
88	Thermally stable, buried highâ€•resistance layers in pâ€•type InP obtained by MeV energy Ti implantation. Journal of Applied Physics, 1993, 73, 7238-7243.	1.1	8
89	MeV B compensation implants intonâ€•type GaAs and InP. Journal of Applied Physics, 1992, 72, 2179-2184.	1.1	18
90	Elevatedâ€•temperature 3â€•MeV Si and 150â€•keV Ge implants in InP:Fe. Journal of Applied Physics, 1992, 71, 126-132.	1.1	20

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91	<title>Rapid thermal annealing of ion-implanted InP, InGaAs, and InSb</title>. , 1992, 1595, 108.		1
92	Co, Fe, and Ti Implants in InGaAs and Co Implants in InP at 200Â° C. Journal of Electronic Materials, 1992, 21, 923-928.	1.0	11
93	Rutherford backscattering studies on high-energy Si-implanted InP. Journal of Electronic Materials, 1991, 20, 615-619.	1.0	20
94	In0.53Ga0.47As metalâ€semiconductorâ€metal photodetector using proton bombardedpâ€type material. Journal of Applied Physics, 1991, 70, 3943-3945.	1.1	31
95	Lightâ€ion bombardedpâ€type In0.53Ga0.47As photoconductive detectors. Journal of Applied Physics, 1991, 69, 7881-7886.	1.1	2
96	Highâ€energy Si implantation into InP:Fe. Journal of Applied Physics, 1991, 70, 1750-1757.	1.1	22
97	10â€“20 MeV energy range Si implantations into InP:Fe. Journal of Applied Physics, 1991, 70, 7188-7190.	1.1	12
98	Range statistics and Rutherford backscattering studies on Feâ€implanted In0.53Ga0.47As. Journal of Applied Physics, 1991, 69, 162-167.	1.1	14
99	0.4â€“3.0â€MeVâ€range Beâ€ion implantations into InP:Fe. Journal of Applied Physics, 1991, 70, 2973-2978.	1.1	8
100	Transition metal implants in In0.53Ga0.47As. Journal of Applied Physics, 1991, 69, 4222-4227.	1.1	22
101	Si-implantation into GaAs grown on Si. Journal of Electronic Materials, 1990, 19, 789-794.	1.0	5
102	MeV Be implantation in GaAs. Journal of Applied Physics, 1990, 67, 6165-6170.	1.1	13
103	Dual implants in InGaAs. Journal of Applied Physics, 1990, 68, 3763-3765.	1.1	5
104	Be+/P+, Be+/Ar+, and Be+/N+coimplantations into InP:Fe. Journal of Applied Physics, 1990, 67, 1761-1766.	1.1	45
105	Fe implantation in In0.53Ga0.47As/InP. Journal of Applied Physics, 1989, 65, 481-485.	1.1	21
106	Halogen lamp rapid thermal annealing of Si- and Be-implanted In0.53Ga0.47As. Journal of Electronic Materials, 1989, 18, 131-136.	1.0	23
107	Si-and Be-implantations in InP:Fe activated by halogen lamp rapid thermal annealing. Journal of Electronic Materials, 1988, 17, 315-320.	1.0	26
108	Lightâ€ionâ€bombarded pâ€type In0.53Ga0.47As. Journal of Applied Physics, 1988, 64, 4755-4759.	1.1	22

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109	Deep radiative levels in asâ€grown and implanted rapid thermal annealed InP. Journal of Applied Physics, 1988, 64, 2426-2433.	1.1	21
110	Twoâ€step rapid thermal annealing of Siâ€implanted InP:Fe. Applied Physics Letters, 1987, 50, 1444-1446.	1.5	28
111	Photoluminescence study of the Siâ€implanted and rapid thermal annealed InP:Fe. Journal of Applied Physics, 1987, 61, 337-341.	1.1	10
112	Electrical and optical nonuniformity of Siâ€implanted and rapid thermal annealed InP:Fe. Applied Physics Letters, 1986, 48, 1522-1524.	1.5	11
113	Liquidâ€phase epitaxial growth and characterization of low carrier concentrationnâ€andpâ€type In0.53Ga0.47As. Journal of Applied Physics, 1985, 58, 4313-4316.	1.1	8
114	Fe and Cr doping of liquidâ€phase epitaxial In0.53Ga0.47As/InP. Journal of Applied Physics, 1985, 57, 333-337.	1.1	19
115	Photoluminescence in Siâ€implanted InP. Journal of Applied Physics, 1984, 55, 509-514.	1.1	21
116	Growth and photoluminescence spectra of highâ€purity liquid phase epitaxial In0.53Ga0.47As. Journal of Applied Physics, 1983, 54, 5096-5102.	1.1	41
117	Fully Ion Implanted Vertical p-i-n Diodes on High Purity Semi-Insulating 4H-SiC Wafers. Materials Science Forum, 0, 717-720, 985-988.	0.3	2
118	Microwave Annealing of Al⁺ Implanted 4H-SiC: Towards Device Fabrication. Materials Science Forum, 0, 778-780, 653-656.	0.3	3
119	Ion Implanted Lateral p⁺-i-n⁺ Diodes on HPSI 4H-SiC. Materials Science Forum, 0, 821-823, 620-623.	0.3	3