

# Vikram S Kumar

## List of Publications by Year in descending order

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132  
papers

3,162  
citations

201674  
27  
h-index

168389  
53  
g-index

135  
all docs

135  
docs citations

135  
times ranked

3153  
citing authors

#	ARTICLE	IF	CITATIONS
1	The physics and technology of gallium antimonide: An emerging optoelectronic material. Journal of Applied Physics, 1997, 81, 5821-5870.	2.5	631
2	Excellent antireflection properties of vertical silicon nanowire arrays. Solar Energy Materials and Solar Cells, 2010, 94, 1506-1511.	6.2	229
3	Fabrication of silicon nanowire arrays based solar cell with improved performance. Solar Energy Materials and Solar Cells, 2011, 95, 215-218.	6.2	165
4	Trap density in conducting organic semiconductors determined from temperature dependence of $J \sim V$ characteristics. Journal of Applied Physics, 2003, 94, 1283-1285.	2.5	143
5	Enhanced field emission characteristics of nitrogen-doped carbon nanotube films grown by microwave plasma enhanced chemical vapor deposition process. Thin Solid Films, 2006, 515, 1851-1856.	1.8	83
6	Trap filled limit voltage (VTFL) and V2 law in space charge limited currents. Journal of Applied Physics, 2007, 102, .	2.5	83
7	A model for the J-V characteristics of P3HT:PCBM solar cells. Journal of Applied Physics, 2009, 105, .	2.5	77
8	Temperature dependence of carrier transport in conducting polymers: Similarity to amorphous inorganic semiconductors. Journal of Applied Physics, 2002, 92, 3835-3838.	2.5	62
9	Buckling patterns in diamond-like carbon films. Thin Solid Films, 1995, 256, 94-100.	1.8	60
10	Enhanced Thermionic Emission and Low $1/f$ Noise in Exfoliated Graphene/GaN Schottky Barrier Diode. ACS Applied Materials & Interfaces, 2016, 8, 8213-8223.	8.0	60
11	Characteristics of Cr-SiO <sub>2</sub> -nSi tunnel diodes. Solid-State Electronics, 1977, 20, 143-152.	1.4	59
12	Sulphur passivation of gallium antimonide surfaces. Applied Physics Letters, 1994, 65, 1695-1697.	3.3	57
13	Structure-conductivity correlation in ferric chloride-doped poly(3-hexylthiophene). New Journal of Physics, 2006, 8, 112-112.	2.9	56
14	Effect of illumination intensity and temperature on open circuit voltage in organic solar cells. Applied Physics Letters, 2009, 94, .	3.3	48
15	Broad spectral sensitivity and improved efficiency in CuPc/Sub-Pc organic photovoltaic devices. Journal Physics D: Applied Physics, 2009, 42, 015103.	2.8	46
16	Growth of gallium antimonide by vertical Bridgman technique with planar crystal-melt interface. Journal of Crystal Growth, 1994, 141, 44-50.	1.5	45
17	Micromorphology, photophysical and electrical properties of pristine and ferric chloride doped poly(3-hexylthiophene) films. Materials Chemistry and Physics, 2007, 104, 390-396.	4.0	44
18	Effect of surface passivating ligand on structural and optoelectronic properties of polymer-CdSe quantum dot composites. Journal Physics D: Applied Physics, 2008, 41, 235409.	2.8	44

#	ARTICLE	IF	CITATIONS
19	Poly(3-hexylthiophene): Functionalized single-walled carbon nanotubes: (6,6)-phenyl-C61-butyric acid methyl ester composites for photovoltaic cell at ambient condition. Solar Energy Materials and Solar Cells, 2010, 94, 2386-2394.	6.2	37
20	Barrier inhomogeneities limited current and 1/f noise transport in GaN based nanoscale Schottky barrier diodes. Scientific Reports, 2016, 6, 27553.	3.3	35
21	Large-scale synthesis, characterization and photoluminescence properties of amorphous silica nanowires by thermal evaporation of silicon monoxide. Physica E: Low-Dimensional Systems and Nanostructures, 2009, 41, 1545-1549.	2.7	34
22	Carrier compensation and scattering mechanisms in $\text{GaSb}$ . Journal of Applied Physics, 1996, 80, 2847-2853.	2.5	32
23	Charge transport through conducting organic poly(2-methoxy-5- (2-ethylhexyloxy)-1,3,4-benzoxazole) (PMEHBO). Journal of Applied Physics, 2010, 107, 044301.	2.8	32
24	A Comprehensive Review on Recent Developments in Ohmic and Schottky Contacts on $\text{Ga}_2\text{O}_3$ for Device Applications. ACS Applied Electronic Materials, 2022, 4, 2589-2628.	4.3	32
25	Diameter Tuning of $\text{Ga}_2\text{O}_3$ Nanowires Using Chemical Vapor Deposition Technique. Nanoscale Research Letters, 2017, 12, 184.	5.7	30
26	Effect of illumination on the space charge limited current in organic bulk heterojunction diodes. Applied Physics A: Materials Science and Processing, 2009, 94, 281-286.	2.3	28
27	Excellent Field Emission Properties of Short Conical Carbon Nanotubes Prepared by Microwave Plasma Enhanced CVD Process. Nanoscale Research Letters, 2008, 3, .	5.7	27
28	Donor-related deep level in bulk GaSb. Applied Physics Letters, 1994, 65, 1412-1414.	3.3	26
29	Carrier transport in conducting polymers with field dependent trap occupancy. Journal of Applied Physics, 2002, 92, 7325-7329.	2.5	25
30	Characteristics of a conducting organic diode with finite (nonzero) Schottky barrier. Journal of Applied Physics, 2006, 100, 114506.	2.5	25
31	A model for the current-voltage characteristics of organic bulk heterojunction solar cells. Journal of Applied Physics, 2009, 105, 055102.	2.8	25
32	Highly dispersible and uniform size $\text{Cu}_2\text{ZnSnS}_4$ nanoparticles for photocatalytic application. Advanced Powder Technology, 2017, 28, 2402-2409.	4.1	25
33	Electrical properties of nickel-related deep levels in silicon. Journal of Applied Physics, 1987, 61, 1449-1455.	2.5	24
34	Low frequency ac conduction and dielectric relaxation in pristine poly(3-octylthiophene) films. New Journal of Physics, 2007, 9, 40-40.	2.9	24
35	Shallow donor neutralization in $\text{CdTe:In}$ by atomic hydrogen. Applied Physics Letters, 1996, 68, 2424-2426.	3.3	21
36	Improvement in crystalline quality of $\text{Cd}_{1-x}\text{Zn}_x\text{Te}$ ( $x=4\%$ ) crystals grown in graphite crucible. Journal of Crystal Growth, 2004, 260, 148-158.	1.5	21

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37	Effect of CdSe quantum dots on hole transport in poly(3-hexylthiophene) thin films. Applied Physics Letters, 2008, 92, .	3.3	21
38	Effect of temperature on the performance of CuPc/C60photovoltaic device. Journal Physics D: Applied Physics, 2009, 42, 015102.	2.8	21
39	Determination of activation energy for thermal regeneration of EL2 from its metastable state by thermally stimulated photocurrent measurements. Journal of Applied Physics, 1988, 64, 956-958.	2.5	20
40	Analysis of leakage currents in MOCVD grown GaInAsSb based photodetectors operating at 2 Åµm. Journal of Electronic Materials, 2006, 35, 1613-1617.	2.2	20
41	Self-assembly of SWCNT in P3HT matrix. Diamond and Related Materials, 2007, 16, 446-453.	3.9	20
42	Effect of ruthenium passivation on the optical and electrical properties of gallium antimonide. Journal of Applied Physics, 1995, 77, 4825-4827.	2.5	19
43	dc electrical conduction and morphology of poly(3-octylthiophene) films. Journal Physics D: Applied Physics, 2006, 39, 196-202.	2.8	19
44	Enhancement in hole current density on polarization in poly(3-hexylthiophene):cadmium selenide quantum dot nanocomposite thin films. Applied Physics Letters, 2009, 94, .	3.3	19
45	Effect of Active Layer Thickness on Open Circuit Voltage in Organic Photovoltaic Devices. Japanese Journal of Applied Physics, 2009, 48, 121501.	1.5	19
46	Role of surface modification of colloidal CdSe quantum dots on the properties of hybrid organicâ€“inorganic nanocomposites. Colloid and Polymer Science, 2010, 288, 841-849.	2.1	18
47	Reverseâ€“bias annealing kinetics of Mgâ€“H complexes in InP. Journal of Applied Physics, 1993, 74, 4521-4526.	2.5	17
48	Mechanism of charge transport in poly(3-octylthiophene). Journal of Applied Physics, 2006, 100, 016106.	2.5	17
49	Reduced phosphorus loss from InP surface during hydrogen plasma treatment. Applied Physics Letters, 1994, 64, 1696-1698.	3.3	16
50	Effect of Substrate Morphology on Growth and Field Emission Properties of Carbon Nanotube Films. Nanoscale Research Letters, 2008, 3, 205-212.	5.7	16
51	Optical and electrical properties of hydrogen-passivated gallium antimonide. Physical Review B, 1995, 51, 2153-2158.	3.2	14
52	Currentâ€“voltage characteristics of an organic diode: Revisited. Synthetic Metals, 2007, 157, 905-909.	3.9	14
53	Direct evidence for the negative-Unature of theDXcenter inAlxGa1âˆ“xAs. Physical Review B, 1992, 46, 7533-7536.	3.2	13
54	Conduction mechanisms in poly(3-hexylthiophene) thin-film sandwiched structures. Semiconductor Science and Technology, 2008, 23, 035008.	2.0	13

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55	Electrical conduction noise and its correlation with structural properties of Cu <sub>2</sub> ZnSnS <sub>4</sub> thin films. Materials Research Express, 2016, 3, 076404.	1.6	13
56	Study of GaN nanowires converted from $\text{In}^{2+}$ -Ga <sub>2</sub> O <sub>3</sub> and photoconduction in a single nanowire. Semiconductor Science and Technology, 2017, 32, 085012.	2.0	13
57	Passivation of surface and bulk defects in $\text{p}^+\text{-GaSb}$ by hydrogenated amorphous silicon treatment. Journal of Applied Physics, 1996, 79, 3246-3252.	2.5	12
58	Effect of field dependent trap occupancy on organic thin film transistor characteristics. Journal of Applied Physics, 2003, 94, 5302.	2.5	12
59	Effect of non-zero Schottky barrier on the J-V characteristics of organic diodes. European Physical Journal E, 2009, 28, 361-368.	1.6	12
60	The origin of DC electrical conduction and dielectric relaxation in pristine and doped poly(3-hexylthiophene) films. Journal of Polymer Science, Part B: Polymer Physics, 2010, 48, 1047-1053.	2.1	12
61	Numerical analysis of melt-solid interface shapes and growth rates of gallium antimonide in a single-zone vertical Bridgman furnace. Journal of Crystal Growth, 1995, 154, 213-222.	1.5	11
62	Temperature Effect on Current-Voltage Characteristics of Molecular Organic Tris(8-hydroxyquinoline) Aluminium Complex. Japanese Journal of Applied Physics, 2006, 45, 7621-7624.	1.5	11
63	Study of electron mobility in small molecular SAQ by transient electroluminescence method. Journal Physics D: Applied Physics, 2007, 40, 7313-7317.	2.8	11
64	Electrical characterization of surface defects in GaSb created by hydrogen plasma. Applied Physics Letters, 1995, 66, 1986-1988.	3.3	10
65	Trap filled limit and high current-voltage characteristics of organic diodes with non-zero Schottky barrier. Journal Physics D: Applied Physics, 2008, 41, 155108.	2.8	9
66	Deep levels related to ion-implanted tellurium in silicon. Journal of Applied Physics, 1983, 54, 6417-6420.	2.5	8
67	Experimental determination of melt-solid interface shapes and actual growth rates of gallium antimonide grown by vertical Bridgman method. Journal of Crystal Growth, 1994, 141, 476-478.	1.5	8
68	Effect of hydrogenation and thermal annealing on the photoluminescence of $\text{p}^+\text{-InP}$ . Journal of Applied Physics, 1995, 77, 5398-5405.	2.5	8
69	Current transport properties of metal/hydrogenated amorphous silicon/GaSb structures. Applied Physics Letters, 1995, 67, 1001-1003.	3.3	8
70	Effect of CoFe magnetic nanoparticles on the hole transport in poly(2-methoxy, 5-(2-ethylhexyloxy)) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	2.8	8
71	Comment on "Interstitial hydrogen and neutralization of shallow-donor impurities in single-crystal silicon". Physical Review Letters, 1987, 59, 2115-2115.	7.8	7
72	Anomalous Dopant Redistribution in Nd:YAG Laser Annealed Low Energy Ion Implanted Silicon. Japanese Journal of Applied Physics, 1992, 31, 1287-1289.	1.5	7

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73	Reactivation kinetics of acceptors in hydrogenated InP during unbiased annealing. Physical Review B, 1995, 51, 1536-1540.	3.2	7
74	Confirmation of metastable neutral DX0 state of Si-related DX center in Al <sub>x</sub> Ga <sub>1-x</sub> As by transient photoconductivity. Solid State Communications, 1997, 104, 781-785.	1.9	7
75	Conductance deep-level transient spectroscopic study of anomalous hole trap in GaAs MESFETs. Semiconductor Science and Technology, 1998, 13, 1094-1099.	2.0	7
76	Designing variable height carbon nanotube bundle for enhanced electron field emission. Physica E: Low-Dimensional Systems and Nanostructures, 2015, 69, 171-176.	2.7	7
77	Localized probiotic-guided pocket recolonization in the treatment of chronic periodontitis: a randomized controlled clinical trial. Journal of Periodontal and Implant Science, 2021, 51, 199.	2.0	7
78	Transient photoconductivity in Si-doped Al <sub>0.26</sub> Ga <sub>0.74</sub> As. Solid State Communications, 1992, 83, 37-39.	1.9	6
79	Resistance switching in indium phosphide using hydrogen passivation of acceptors. Applied Physics Letters, 1994, 64, 2256-2257.	3.3	6
80	Influence of deviation from stoichiometry on the photoluminescence in CdTe doped with indium. Bulletin of Materials Science, 1994, 17, 1057-1064.	1.7	6
81	Inverted order of acceptor and donor levels of the Si-related DX center in Al <sub>x</sub> Ga <sub>1-x</sub> As. Physical Review B, 1997, 55, 4042-4045.	3.2	6
82	Aperiodic Silicon Nanowire Arrays: Fabrication, Light Trapping Properties and Solar Cell Applications. Advanced Structured Materials, 2016, , 329-363.	0.5	6
83	System effects in double-channel gated integrator-based deep-level transient spectroscopy. Journal of Applied Physics, 1988, 64, 6311-6314.	2.5	5
84	Bright red electroluminescence in diffused porous silicon p-n junction. Bulletin of Materials Science, 1993, 16, 239-241.	1.7	5
85	A deep-level spectroscopic technique for determining capture cross-section activation energy of Si-related DX centers in Al <sub>x</sub> Ga <sub>1-x</sub> As. Journal of Applied Physics, 1994, 75, 8243-8245.	2.5	5
86	The origin of low-frequency negative transconductance dispersion in a pseudomorphic HEMT. Semiconductor Science and Technology, 2005, 20, 783-787.	2.0	5
87	High-frequency capacitance-voltage characteristics of amorphous (undoped)/crystalline silicon heterostructures. Solid-State Electronics, 1991, 34, 535-543.	1.4	4
88	Silver- and Gold-Related Deep Levels in Gallium Arsenide. Japanese Journal of Applied Physics, 1991, 30, 2815-2818.	1.5	4
89	Liquid phase epitaxial growth of pure and doped GaSb layers: morphological evolution and native defects. Bulletin of Materials Science, 1995, 18, 865-874.	1.7	4
90	Fine structure in 1.4 eV luminescence band from plasma deposited amorphous silicon layers on silicon substrates. Applied Physics Letters, 1996, 68, 1458-1460.	3.3	4

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91	Effect of Catalyst Film Thickness on the Growth, Microstructure and Field Emission Characteristics of Carbon Nanotubes. , 2007, , .		4
92	Effect of FeCl <sub>3</sub> on the stability of Î-conjugation of electronic polymer. Corrosion Science, 2008, 50, 301-308.	6.6	4
93	Jâ€V characteristics of GaN containing traps at several discrete energy levels. Solid-State Electronics, 2010, 54, 288-293.	1.4	4
94	Growth, properties, and applications of Î <sup>2</sup> -Ga <sub>2</sub> O <sub>3</sub> nanostructures. , 2019, , 91-115.		4
95	The photoionisation energy of the thermally induced Ev+0.42 eV level in p-silicon. Journal of Physics C: Solid State Physics, 1985, 18, 5095-5098.	1.5	3
96	Neutralization of phosphorus in polycrystalline silicon by hydrogenation. Journal of Applied Physics, 1988, 63, 2867-2868.	2.5	3
97	Excellent rectifying characteristics in Au/n-CdTe diodes upon exposure to rf nitrogen plasma. Semiconductor Science and Technology, 1999, 14, 909-914.	2.0	3
98	Simulation of field emission behavior from multiple carbon nanotubes in an integrated gate triode configuration. Physica E: Low-Dimensional Systems and Nanostructures, 2014, 63, 268-271.	2.7	3
99	High Field Emission Current Density from Patterned Carbon Nanotube Field Emitter Arrays with Random Growth. Journal of Nanoscience and Nanotechnology, 2015, 15, 3846-3851.	0.9	3
100	Carbon Nanowalls: A Potential 2-Dimensional Material for Field Emission and Energy-Related Applications. Advanced Structured Materials, 2018, , 27-71.	0.5	3
101	Non Destructive Evaluation of AlGaIn/GaN HEMT structure by cathodoluminescence spectroscopy. Journal of Luminescence, 2021, 232, 117834.	3.1	3
102	Applicability of the van der Pauwâ€Hall measurement technique to implanted samples. Journal of Applied Physics, 1984, 55, 4450-4451.	2.5	2
103	Hydrogen Passivation of Shallow Dopants in Indium Doped Bulk CdTe. Materials Research Society Symposia Proceedings, 1995, 378, 423.	0.1	2
104	Deep level transient spectroscopic study of DX center in heavily doped ion-implanted GaAs. Solid State Communications, 1996, 98, 195-199.	1.9	2
105	Modelling temperature distribution in cylindrical crystal growth furnaces. International Communications in Heat and Mass Transfer, 1996, 23, 377-386.	5.6	2
106	Effect of ambient on the thermal parameters of a micromachined bolometer. Applied Physics Letters, 2003, 82, 2721-2723.	3.3	2
107	Synthesis of Cu <sub>2</sub> ZnSnS <sub>4</sub> nanoparticles by solvothermal route. AIP Conference Proceedings, 2016, , .	0.4	2
108	Temperature Dependent Electrical Characteristics of Nanostructured WO <sub>3</sub> Based Ambipolar Bottom Gate FET. IEEE Nanotechnology Magazine, 2018, 17, 1288-1294.	2.0	2

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109	Two-dimensional analytical modelling of drain current collapse in AlGaIn/GaN HEMTs using multi-phonon ionisation by an electric field. Semiconductor Science and Technology, 2020, 35, 085035.	2.0	2
110	A DLTS technique for surface state capture cross-section measurement of MOS diodes. Applications of Surface Science, 1985, 22-23, 1004-1010.	1.0	1
111	Interface State Density Distribution in Amorphous/Crystalline Silicon Heterostructures. Japanese Journal of Applied Physics, 1989, 28, L744-L746.	1.5	1
112	Passivation of Surface and Bulk Defects in InP. Materials Research Society Symposia Proceedings, 1992, 262, 413.	0.1	1
113	Interfacial electrical properties of diamond-like carbon/gallium arsenide heterostructures. Diamond and Related Materials, 1993, 2, 1459-1463.	3.9	1
114	Influence of arsenic concentration on the surface morphology and photoluminescence of LPE grown with high aluminium content. Journal of Crystal Growth, 1996, 160, 177-180.	1.5	1
115	XRT mapping of strain induced by 200 MeV Ag <sup>14+</sup> ions in Si(001). Materials Chemistry and Physics, 1998, 54, 293-295.	4.0	1
116	Evidence for two Si-related DX like centers in Al <sub>x</sub> Ga <sub>1-x</sub> As and GaAs. Solid State Communications, 1998, 106, 163-168.	1.9	1
117	CO-implantation of Si and Be in Si GaAs for improved device performance. Solid-State Electronics, 1998, 42, 1905-1910.	1.4	1
118	A novel non-TOPO route for the synthesis of colloidal CdSe quantum dots with high luminescence and stability. , 2007, , .		1
119	Temperature dependent growth of GaN nanowires using CVD technique. AIP Conference Proceedings, 2016, , .	0.4	1
120	Theoretical optimization of metal-p <sup>n</sup> silicon Schottky barrier solar cell. Pramana - Journal of Physics, 1985, 25, 587-596.	1.8	0
121	Graphical method to include temperature variation of activation energy in Hall data analysis. Journal of Applied Physics, 1985, 57, 5529-5531.	2.5	0
122	Characterization of defects in gallium arsenide. Bulletin of Materials Science, 1990, 13, 83-88.	1.7	0
123	Evidence for Metastable State of DX Center in Al <sub>x</sub> Ga <sub>1-x</sub> As. Materials Research Society Symposia Proceedings, 1992, 262, 579.	0.1	0
124	Hydrogen Passivation of Shallow Dopants in InP Studied by Photoluminescence Spectroscopy. Materials Research Society Symposia Proceedings, 1995, 378, 453.	0.1	0
125	Effect of Hydrogenation on the Electrical and Optical Properties of GaSb. Materials Research Society Symposia Proceedings, 1995, 396, 533.	0.1	0
126	Morphological Evolution and Properties of LPE Grown GaSb, AlGaSb and AlGaAsSb. Materials Research Society Symposia Proceedings, 1995, 399, 153.	0.1	0



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127	Cathodoluminescence Spectroscopy For Evaluation Of Defect Passivation In GaSb. Materials Research Society Symposia Proceedings, 1995, 406, 537.	0.1	0
128	Some recent advances in bulk growth of mercury cadmium telluride crystals. Bulletin of Materials Science, 1995, 18, 385-394.	1.7	0
129	Fabrication of WOLED by blue florescent host doped with red phosphorescent dyes. , 2007, , .		0
130	Improved efficiency of Organic Light Emitting Diodes by doping of hole transport layer. , 2007, , .		0
131	Effect of thermal treatment on the performance of organic bulk-hetrojunction photovoltaic devices. , 2007, , .		0
132	Tuberculosis treatment spills the beans on Wilsonâ€™s disease and more. Medical Journal Armed Forces India, 2021, , .	0.8	0