Vikram L Dalal

List of Publications by Year
in descending order

81 papers	1,168 citations	516710 16 h-index	395702 33 g-index
81 all docs	81 docs citations	81 times ranked	1676 citing authors

#	Article	IF	Citations
1	Defect density and dielectric constant in perovskite solar cells. Applied Physics Letters, 2014, 105, .	3.3	221
2	A photonic-plasmonic structure for enhancing light absorption in thin film solar cells. Applied Physics Letters, 2011, 99, .	3.3	102
3	High efficiency sequentially vapor grown n-i-p CH₃NH₃PbI₃ perovskite solar cells with undoped P3HT as p-type heterojunction layer. APL Materials, 2015, 3, 016105.	5.1	87
4	Photonic crystal based back reflectors for light management and enhanced absorption in amorphous silicon solar cells. Applied Physics Letters, 2009, 95, .	3.3	83
5	Electron and hole drift mobility measurements on methylammonium lead iodide perovskite solar cells. Applied Physics Letters, 2016, 108, .	3.3	60
6	The physics of photon induced degradation of perovskite solar cells. AIP Advances, 2016, 6, .	1.3	48
7	Influence of pressure and ion bombardment on the growth and properties of nanocrystalline silicon materials. Applied Physics Letters, 2004, 85, 1413-1414.	3.3	41
8	Efficient p-i-n inorganic CsPbI3 perovskite solar cell deposited using layer-by-layer vacuum deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2018, 36, .	2.1	35
9	Growth of high quality amorphous silicon films with significantly improved stability. Applied Physics Letters, 1994, 64, 1862-1864.	3.3	33
10	Growth chemistry of nanocrystalline silicon and germanium films. Journal of Non-Crystalline Solids, 2006, 352, 892-895.	3.1	32
11	Performance and stability of co-evaporated vapor deposited perovskite solar cells. Journal of Materials Science: Materials in Electronics, 2019, 30, 5487-5494.	2.2	28
12	CH₃NH₃PbI₃from non-iodide lead salts for perovskite solar cells via the formation of PbI₂. Physical Chemistry Chemical Physics, 2015, 17, 10369-10372.	2.8	27
13	Engineering band gap and electronic transport in organicâ€“inorganic halide perovskites by superlattices. Nanoscale, 2017, 9, 8600-8607.	5.6	26
14	Defect density and diffusion length of holes in nanocrystalline silicon devices. Applied Physics Letters, 2005, 86, 103510.	3.3	24
15	Thermally Stable, Efficient, Vapor Deposited Inorganic Perovskite Solar Cells. ACS Applied Energy Materials, 2020, 3, 3497-3503.	5.1	24
16	Growth and properties of amorphous Ge:H solar cells. Journal of Non-Crystalline Solids, 2004, 338-340, 651-654.	3.1	20
17	Fundamental considerations regarding the growth of amorphous and microcrystalline silicon and alloy films. Thin Solid Films, 2001, 395, 173-177.	1.8	19
18	Influence of plasma chemistry on the properties of a-(Si,Ge):H alloys. Journal of Non-Crystalline Solids, 2000, 266-269, 675-679.	3.1	17

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19	Growth chemistry of amorphous silicon and amorphous siliconâ€“germanium alloys. Current Opinion in Solid State and Materials Science, 2002, 6, 455-464.	11.5	16
20	Blue photon management by inhouse grown ZnO:Al cathode for enhanced photostability in polymer solar cells. Solar Energy Materials and Solar Cells, 2018, 179, 95-101.	6.2	16
21	Improving stability of amorphous silicon using chemical annealing with helium. Journal of Non-Crystalline Solids, 2006, 352, 1937-1940.	3.1	15
22	Growth of high quality amorphous silicon-germanium films using low pressure remote electron-cyclotron-resonance discharge. Journal of Non-Crystalline Solids, 1996, 198-200, 563-566.	3.1	14
23	Growth and properties of nanocrystalline germanium films. Journal of Applied Physics, 2005, 98, 096103.	2.5	14
24	Low-Temperature Microwave Processed TiO₂ as an Electron Transport Layer for Enhanced Performance and Atmospheric Stability in Planar Perovskite Solar Cells. ACS Applied Energy Materials, 2022, 5, 2679-2696.	5.1	11
25	Exciton photoluminescence of quantum wells affected by thermal migration and inherent interface fluctuation. Journal of Applied Physics, 1993, 74, 5349-5353.	2.5	9
26	Polarization-diverse light absorption enhancement in organic photovoltaic structures with one-dimensional, long-pitch metallic gratings: Design and experiment. Applied Physics Letters, 2012, 101, 233904.	3.3	9
27	Influence of post-deposition selenization and cadmium chloride assisted grain enhancement on electronic properties of cadmium selenide thin films. AIP Advances, 2019, 9, .	1.3	9
28	Significant improvements in stability of amorphous silicon solar cells by using ECR deposition. Journal of Non-Crystalline Solids, 1996, 198-200, 1101-1104.	3.1	8
29	Influence of Plasma Chemistry on the Properties of Amorphous (Si,Ge) Alloy Devices. Materials Research Society Symposia Proceedings, 1998, 507, 441.	0.1	8
30	Properties of amorphous silicon-germanium films and devices deposited at higher growth rates. Materials Research Society Symposia Proceedings, 2002, 715, 1831.	0.1	7
31	Properties of a-Si:H films grown using hot wire-ECR plasma techniques. Thin Solid Films, 2003, 430, 91-94.	1.8	7
32	Enhancement of solar cells with photonic and plasmonic crystals - overcoming the Lambertian limit. Journal of Materials Research, 2013, 28, 1021-1030.	2.6	7
33	Influence of grain size on the photo-stability of perovskite solar cells. Journal of Materials Science: Materials in Electronics, 2021, 32, 4067-4075.	2.2	7
34	Design and Fabrication of Graded Bandgap Solar Cells in Amorphous Si and Alloys. Materials Research Society Symposia Proceedings, 1993, 297, 833.	0.1	6
35	Growth of Micro-Crystalline SI:H and (SI,GE):H on Polyimide Substrates using ECR Deposition Techniques. Materials Research Society Symposia Proceedings, 1997, 467, 409.	0.1	6
36	Improvements in stability of amorphous silicon solar cells by using ECR-CVD processing. Journal of Non-Crystalline Solids, 1998, 227-230, 1257-1261.	3.1	5

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37	Growth and Properties of Micro-Crystalline (Si,Ge):H Films. Materials Research Society Symposia Proceedings, 1998, 507, 987.	0.1	5
38	Properties of a-Si:H and a-(Si,Ge):h films grown using combined hot wireâ€“ECR plasma processes. Journal of Non-Crystalline Solids, 2004, 338-340, 61-64.	3.1	5
39	Microcrystalline Germanium Carbide: A New, Almost Direct Gap, Thin Film Material for Photovoltaic Energy Conversion. Materials Research Society Symposia Proceedings, 2001, 664, 25121.	0.1	4
40	Growth and properties of low bandgap amorphous (Si,Ge) alloy materials and devices. Journal of Non-Crystalline Solids, 2002, 299-302, 1127-1130.	3.1	4
41	More stable hybrid organic solar cells deposited on amorphous Si electron transfer layer. Applied Physics Letters, 2014, 104, .	3.3	4
42	Highly reproducible vapor deposition technique, device physics and structural instability of perovskite solar cells. , 2015, , .		4
43	Evidence For Trap-Conversion Induced Instability In Amorphous Silicon. Materials Research Society Symposia Proceedings, 2003, 762, 1251.	0.1	3
44	Pecvd Grown p-i-n Si and Si,Ge Thin Film Photodetectors For Integrated Oxygen Sensors. Materials Research Society Symposia Proceedings, 2007, 989, 1.	0.1	3
45	Stability of organic solar cells. , 2012, , .		3
46	Growth of Amorphous Silicon Materials and Devices with Improved Stability. Materials Research Society Symposia Proceedings, 1994, 336, 335.	0.1	2
47	Some Considerations Relating to Growth Chemistry of Amorphous SI and (SI,GE) Films and Devices. Materials Research Society Symposia Proceedings, 2001, 664, 531.	0.1	2
48	Nanocrystalline Germanium and Germanium Carbide Films and Devices. Materials Research Society Symposia Proceedings, 2005, 862, 1021.	0.1	2
49	Superlattice structures for nanocrystalline silicon solar cells. , 2008, , .		2
50	Fabrication of Photonic Crystal based Back Reflectors for Light Management and Enhanced Absorption in Amorphous Silicon Solar Cells. Materials Research Society Symposia Proceedings, 2009, 1153, 1.	0.1	2
51	Device physics of nanocrystalline silicon solar cells. , 2009, , .		2
52	Physics of instability of perovskite solar cells. , 2016, , .		2
53	Spectroscopy of Ecr Plasma Used for Depositing Amorphous and Microcrystalline Silicon Films. Materials Research Society Symposia Proceedings, 2002, 715, 1961.	0.1	2
54	Growth of High Quality Fluorinated Silicon Dioxide for Thin Film Transistors. Materials Research Society Symposia Proceedings, 2002, 715, 331.	0.1	2

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55	Microcrystalline Si and (Si,Ge) Solar Cells. Materials Research Society Symposia Proceedings, 2000, 609, 1381.	0.1	1
56	OPTICAL EMISSION SPECTROSCOPY OF GERMANE PLASMA PRODUCED IN AN ECR REACTOR. Materials Research Society Symposia Proceedings, 2001, 664, 521.	0.1	1
57	Defect Densities, Diffusion Lengths and Device Physics in Nanocrystalline Si:H Solar Cells. Materials Research Society Symposia Proceedings, 2004, 808, 413.	0.1	1
58	Channel Reliability in MOSFETs with Gate Oxide Grown using ECR Plasma of O2/He. Materials Research Society Symposia Proceedings, 2007, 989, 9.	0.1	1
59	Growth and Electronic Properties in Hot Wire Deposited Nanocrystalline Si Solar Cells. Materials Research Society Symposia Proceedings, 2007, 989, 6.	0.1	1
60	Growth and properties of fluorinated plasma oxide for Si MOSFET devices. Journal of Non-Crystalline Solids, 2008, 354, 2839-2842.	3.1	1
61	High Quality, Low Bandgap a-Si Films and Devices Produced Using Chemical Annealing. Materials Research Society Symposia Proceedings, 2010, 1245, 1.	0.1	1
62	Defect Densities and Carrier Lifetimes in Oxygen doped Nanocrystalline Si. Materials Research Society Symposia Proceedings, 2013, 1536, 169-173.	0.1	1
63	Defects and Doping in Nanocrystalline Silicon-Germanium Devices. Materials Research Society Symposia Proceedings, 2014, 1666, 97.	0.1	1
64	Photo-degradation of perovskite solar cells: Modeling and Simulation. , 2018, , .		1
65	Surface States and Interface States: Two Fundamental Sources of Photodegradation in Organic Bulk Heterojunction Devices. IEEE Journal of Photovoltaics, 2018, 8, 1647-1655.	2.5	1
66	Inorganic perovskite solar cells with high voltage and excellent stability against thermal and environmental degradation. , 2021, , .		1
67	Novel CdSe Solar Cell. , 2021, , .		1
68	Inorganic Perovskite Solar Cells with High Voltage and Excellent Thermal and Environmental Stability. ACS Applied Energy Materials, 0, , .	5.1	1
69	Simulation of Quantum Efficiency Spectroscopy for Amorphous Silicon P-I-N Junctions. Materials Research Society Symposia Proceedings, 1999, 557, 37.	0.1	0
70	Low gap Amorphous (Si,Ge) Solar Cells. Materials Research Society Symposia Proceedings, 2000, 609, 1531.	0.1	0
71	Nanocrystalline Si Films and Devices Produced Using Chemical Annealing with Helium. Materials Research Society Symposia Proceedings, 2005, 862, 2061.	0.1	0
72	Influence of Amorphous Layers on Performance of Nanocrystalline/Amorphous Superlattice Si Solar Cells. Materials Research Society Symposia Proceedings, 2007, 989, 2.	0.1	0

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73	Nanocrystalline Superlattice Solar Cells. Materials Research Society Symposia Proceedings, 2009, 1153, 1.	0.1	0
74	Enhanced Absorption in Amorphous Silicon Solar Cells Using Plasmonic and Photonic Crystals â€“ Measurement and Simulation. Materials Research Society Symposia Proceedings, 2010, 1248, 503.	0.1	0
75	Photonic Crystal Back Reflectors for Enhanced Absorption in Amorphous Silicon Solar Cells. Materials Research Society Symposia Proceedings, 2010, 1245, 1.	0.1	0
76	Physics of instability of thin film Si and (Si,Ge) alloy solar cells. , 2011, , .		0
77	Properties of A-(Si,Ge) Materials and Devices grown using Chemical Annealing. Materials Research Society Symposia Proceedings, 2011, 1321, 229.	0.1	0
78	Grain Growth and Mobility in Nanocrystalline Ge Films. Materials Research Society Symposia Proceedings, 2012, 1426, 359-364.	0.1	0
79	Influence of oxygen on defect densities in nanocrystalline Si. Journal of Non-Crystalline Solids, 2012, 358, 2071-2073.	3.1	0
80	Influence of chemical annealing on electronic properties of a-(Si, Ge). , 2013, , .		0
81	Properties of Nanocrystalline Germanium-Carbon Films and Devices. Materials Research Society Symposia Proceedings, 2003, 762, 641.	0.1	0