

# Jk Rath

## List of Publications by Year in descending order

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73  
papers

1,358  
citations

279701

23  
h-index

377752

34  
g-index

74  
all docs

74  
docs citations

74  
times ranked

933  
citing authors

#	ARTICLE	IF	CITATIONS
1	Optical modelling of photonic and geometrical structures used for light management in thin-film solar cells. <i>Materials Today: Proceedings</i> , 2021, 39, 1974-1977.	0.9	3
2	Microscopic studies of polycrystalline nanoparticle growth in free space. <i>Journal of Crystal Growth</i> , 2017, 467, 137-144.	0.7	3
3	Size control of gas phase grown silicon nanoparticles by varying the plasma OFF time in silane pulsed plasma. <i>Materials Research Society Symposia Proceedings</i> , 2015, 1803, 1.	0.1	3
4	Using hot wire and initiated chemical vapor deposition for gas barrier thin film encapsulation. <i>Thin Solid Films</i> , 2015, 575, 67-71.	0.8	32
5	Moisture barrier enhancement by spontaneous formation of silicon oxide interlayers in hot wire chemical vapor deposition of silicon nitride on poly(glycidyl methacrylate). <i>Canadian Journal of Physics</i> , 2014, 92, 593-596.	0.4	2
6	All hot wire chemical vapor deposition low substrate temperature transparent thin film moisture barrier. <i>Thin Solid Films</i> , 2013, 532, 84-88.	0.8	18
7	Scattering, Diffraction, and Geometric Light Trapping in Thin Film Amorphous Silicon Solar Cells on Plastic Substrates. <i>Materials Research Society Symposia Proceedings</i> , 2012, 1426, 155-160.	0.1	1
8	Very Thin Micromorph Tandem Solar Cells Deposited at Low Substrate Temperature. <i>Materials Research Society Symposia Proceedings</i> , 2012, 1426, 45-49.	0.1	1
9	Optical Transmission in a Silicon Nitride/Polymer Multilayer Permeation Barrier made by Hot-Wire CVD: Model and Experiment. , 2012, , .		0
10	A calibration method for accurate prediction of amorphous to nanocrystalline transition from line intensities of optical emission spectrum. <i>Journal of Non-Crystalline Solids</i> , 2012, 358, 1995-1999.	1.5	1
11	Improving the performance of amorphous and crystalline silicon heterojunction solar cells by monitoring surface passivation. <i>Journal of Non-Crystalline Solids</i> , 2012, 358, 2245-2248.	1.5	26
12	A novel structured plastic substrate for light confinement in thin film silicon solar cells by a geometric optical effect. <i>Journal of Non-Crystalline Solids</i> , 2012, 358, 2308-2312.	1.5	5
13	Polymer layers by initiated chemical vapor deposition for thin film gas barrier encapsulation. <i>Thin Solid Films</i> , 2011, 519, 4479-4482.	0.8	17
14	Transparent conducting oxide layers for thin film silicon solar cells. <i>Thin Solid Films</i> , 2010, 518, e129-e135.	0.8	37
15	Fabrication of thin film silicon solar cells on plastic substrate by very high frequency PECVD. <i>Solar Energy Materials and Solar Cells</i> , 2010, 94, 1534-1541.	3.0	66
16	Synthesis of nanocrystalline silicon thin films using the increase of the deposition pressure in the hot-wire chemical vapour deposition technique. <i>South African Journal of Science</i> , 2010, 105, .	0.3	2
17	Ultrafast deposition of silicon nitride and semiconductor silicon thin films by hot wire chemical vapor deposition. <i>Thin Solid Films</i> , 2009, 517, 3039-3042.	0.8	10
18	Gas phase considerations for the growth of device quality nanocrystalline silicon at high rate. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2009, 159-160, 38-43.	1.7	11

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19	Heat transfer model of an iCVD reactor. Thin Solid Films, 2009, 517, 3555-3558.	0.8	8
20	Thin film silicon n-i-p solar cells deposited by VHF PECVD at 100°C substrate temperature. Solar Energy Materials and Solar Cells, 2009, 93, 680-683.	3.0	24
21	Nanostructured thin films for multibandgap silicon triple junction solar cells. Solar Energy Materials and Solar Cells, 2009, 93, 1129-1133.	3.0	25
22	Growth mechanism of nanocrystalline silicon at the phase transition and its application in thin film solar cells. Journal of Crystal Growth, 2009, 311, 760-764.	0.7	31
23	Designing amorphous silicon based solar cell structure on plastic. , 2009, , .		1
24	Hot Wire CVD for thin film triple junction cells and for ultrafast deposition of the SiN passivation layer on polycrystalline Si solar cells. Thin Solid Films, 2008, 516, 496-499.	0.8	4
25	Low temperature (<100°C) fabrication of thin film silicon solar cells by HWCVD. Thin Solid Films, 2008, 516, 751-754.	0.8	11
26	Improvement of the efficiency of triple junction n-i-p solar cells with hot-wire CVD proto- and microcrystalline silicon absorber layers. Thin Solid Films, 2008, 516, 736-739.	0.8	10
27	Improvement of $\mu\text{c-Si:H}$ n-i-p cell efficiency with an i-layer made by hot-wire CVD by reverse H <sub>2</sub> -profiling. Thin Solid Films, 2008, 516, 755-757.	0.8	12
28	Nanostructured thin films for multiband-gap silicon triple junction solar cells. Thin Solid Films, 2008, 516, 6818-6823.	0.8	19
29	Optoelectronic properties of hot-wire silicon layers deposited at 100°C. Journal of Non-Crystalline Solids, 2008, 354, 2248-2252.	1.5	3
30	Controlling the quality of nanocrystalline silicon made by hot-wire chemical vapor deposition by using a reverse H <sub>2</sub> profiling technique. Journal of Non-Crystalline Solids, 2008, 354, 2087-2091.	1.5	26
31	On the development of single and multijunction solar cells with hot-wire CVD deposited active layers. Journal of Non-Crystalline Solids, 2008, 354, 2445-2450.	1.5	6
32	Thin film silicon devices deposited at 100°C: A study on the structural order of the photoactive layer. Journal of Non-Crystalline Solids, 2008, 354, 2652-2656.	1.5	7
33	Thin film silicon modules on plastic superstrates. Journal of Non-Crystalline Solids, 2008, 354, 2381-2385.	1.5	16
34	Flexible a-Si/c-Si tandem thin film silicon solar cells on plastic substrates with i-layers made with hot-wire CVD using the Helianthos cell transfer process. Conference Record of the IEEE Photovoltaic Specialists Conference, 2008, , .	0.0	3
35	Gas phase considerations for the deposition of thin film silicon solar cells by VHF-PECVD at low substrate temperatures. Conference Record of the IEEE Photovoltaic Specialists Conference, 2008, , .	0.0	0
36	High-density silicon nitride deposited at low substrate temperature with high deposition rate using hot wire chemical vapour deposition. Surface and Coatings Technology, 2007, 201, 9285-9288.	2.2	21

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37	Initiated chemical vapour deposition (iCVD) of thermally stable poly-glycidyl methacrylate. Surface and Coatings Technology, 2007, 201, 9422-9425.	2.2	30
38	Development of micromorph tandem solar cells on foil deposited by VHF-PECVD. Surface and Coatings Technology, 2007, 201, 9330-9333.	2.2	5
39	Improved stability of intrinsic nanocrystalline Si thin films deposited by hot-wire chemical vapour deposition technique. Thin Solid Films, 2007, 515, 8040-8044.	0.8	16
40	Hot-wire chemical vapor-deposited microcrystalline silicon in single and tandem $n^+i^+p$ solar cells. Journal of Non-Crystalline Solids, 2006, 352, 1933-1936.	1.5	15
41	Influence on cell performance of bulk defect density in microcrystalline silicon grown by VHF PECVD. Journal of Non-Crystalline Solids, 2006, 352, 1868-1871.	1.5	39
42	Optimization of $n^+i^+p$ polycrystalline SiGe:H thin film solar cells for application in thin film multijunction solar cells. Journal of Non-Crystalline Solids, 2006, 352, 1941-1944.	1.5	27
43	Sensitivity of the dark spectral response of thin film silicon based tandem solar cells on the defective regions in the intrinsic layers. Journal of Non-Crystalline Solids, 2006, 352, 1876-1879.	1.5	13
44	Beneficial effects of sputtered ZnO:Al protection layer on SnO <sub>2</sub> :F for high-deposition rate hot-wire CVD $p^+i^+n$ solar cells. Thin Solid Films, 2006, 501, 47-50.	0.8	25
45	Thin film micro- and polycrystalline silicon nip cells on stainless steel made by hot-wire chemical vapour deposition. Thin Solid Films, 2006, 501, 276-279.	0.8	7
46	Silicon nitride at high deposition rate by Hot Wire Chemical Vapor Deposition as passivating and antireflection layer on multicrystalline silicon solar cells. Thin Solid Films, 2006, 501, 51-54.	0.8	28
47	A combined experimental and computer simulation study of HWCVD nip microcrystalline silicon solar cells. Thin Solid Films, 2006, 501, 291-294.	0.8	15
48	Influence of Pressure and Plasma Potential on High Growth Rate Microcrystalline Silicon Grown by Vhf Pecvd. Materials Research Society Symposia Proceedings, 2005, 862, 1031.	0.1	7
49	Growth mechanism of microcrystalline silicon at high pressure conditions. Journal of Non-Crystalline Solids, 2004, 338-340, 56-60.	1.5	40
50	Modeling $a$ -Si:H $p^+i^+n$ solar cells with the defect pool model. Journal of Non-Crystalline Solids, 2004, 338-340, 686-689.	1.5	7
51	Investigation of scaling-up issues in hot-wire CVD of polycrystalline silicon. Thin Solid Films, 2003, 427, 41-45.	0.8	6
52	Deposition of HWCVD poly-Si films at a high growth rate. Thin Solid Films, 2003, 430, 67-72.	0.8	18
53	Incorporation of amorphous and microcrystalline silicon in $n^+i^+p$ solar cells. Thin Solid Films, 2003, 430, 216-219.	0.8	19
54	Thin-film transistors deposited by hot-wire chemical vapor deposition. Thin Solid Films, 2003, 430, 220-225.	0.8	29

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55	The influence of the filament temperature on the structure of hot-wire deposited silicon. Thin Solid Films, 2003, 430, 46-49.	0.8	33
56	Low temperature polycrystalline silicon: a review on deposition, physical properties and solar cell applications. Solar Energy Materials and Solar Cells, 2003, 76, 431-487.	3.0	173
57	a-Si:H/poly-Si tandem cells deposited by hot-wire CVD. Journal of Non-Crystalline Solids, 2002, 299-302, 1194-1197.	1.5	8
58	New challenges in thin film transistor (TFT) research. Journal of Non-Crystalline Solids, 2002, 299-302, 1304-1310.	1.5	39
59	Highly stable hydrogenated amorphous silicon germanium solar cells. IEEE Transactions on Electron Devices, 2002, 49, 949-952.	1.6	21
60	Micro-/Poly-Crystalline Silicon Materials For Thin Film Photovoltaic Devices: Application In Solar Cells. , 2002, , 183-196.		2
61	Thin Film a-Si/poly-Si Multibandgap Tandem Solar Cells With Both Absorber Layers Deposited by Hot Wire Cvd. Materials Research Society Symposia Proceedings, 2001, 664, 1561.	0.1	8
62	The influence of different catalyzers in hot-wire CVD for the deposition of polycrystalline silicon thin films. Thin Solid Films, 2001, 395, 194-197.	0.8	39
63	Hot-wire silicon nitride for thin-film transistors. Thin Solid Films, 2001, 395, 339-342.	0.8	27
64	Poly-silicon films with low impurity concentration made by hot wire chemical vapour deposition. Solar Energy Materials and Solar Cells, 2001, 65, 541-547.	3.0	12
65	Low Temperature Poly-Si Layers Deposited by Hot Wire CVD Yielding a Mobility of $4.0 \text{ cm}^2/\text{V}\cdot\text{s}$ in Top Gate Thin Film Transistors. Materials Research Society Symposia Proceedings, 2000, 609, 3131.	0.1	8
66	Effect of oxide treatment at the microcrystalline tunnel junction of a-Si:H/a-Si:H tandem cells. Journal of Non-Crystalline Solids, 2000, 266-269, 1129-1133.	1.5	9
67	Novel profiled thin-film polycrystalline silicon solar cells on stainless steel substrates. IEEE Transactions on Electron Devices, 1999, 46, 2069-2071.	1.6	42
68	Hydrogenated amorphous and polycrystalline silicon TFTs by hot-wire CVD. Journal of Non-Crystalline Solids, 1998, 227-230, 1202-1206.	1.5	23
69	Transistors with a Profiled Active Layer Made by Hot-Wire Cvd. Materials Research Society Symposia Proceedings, 1998, 507, 31.	0.1	9
70	Hot-Wire CVD Poly-Silicon Films for Thin Film Devices. Materials Research Society Symposia Proceedings, 1998, 507, 879.	0.1	66
71	Low-temperature deposition of polycrystalline silicon thin films by hot-wire CVD. Solar Energy Materials and Solar Cells, 1997, 48, 269-277.	3.0	25
72	Microcrystalline-crystalline silicon heterojunction solar cells using highly conductive thin p-type microcrystalline silicon window layers. , 1996, , .		1

#	ARTICLE	IF	CITATIONS
73	Development of amorphous silicon based p-i-n solar cell in a superstrate structure with p-microcrystalline silicon as window layer. , 1996, , .		1