Vladimir Smirnov

List of Publications by Year
in descending order

64 papers	1,169 citations	430442 18 h-index	414034 32 g-index
66 all docs	66 docs citations	66 times ranked	1715 citing authors

#	Article	IF	Citations
1	Understanding the Origin of Thermal Annealing Effects in Lowâ€Temperature Amorphous Silicon Films and Solar Cells. Physica Status Solidi (A) Applications and Materials Science, 2022, 219, .	0.8	2
2	Prediction of Limits of Solarâ€toâ€Hydrogen Efficiency from Polarization Curves of the Electrochemical Cells. Solar Rrl, 2022, 6, 2100783.	3.1	3
3	Performance of Integrated Thin-Film Silicon Solar Cell-Based Water-Splitting Devices under Varying Illumination Angles and an Estimation of Their Annual Hydrogen Production. Energy & Fuels, 2021, 35, 839-846.	2.5	5
4	Optimization of Transparent Passivating Contact for Crystalline Silicon Solar Cells. IEEE Journal of Photovoltaics, 2020, 10, 46-53.	1.5	16
5	Photoelectrochemical Water Splitting using Adapted Silicon Based Multi-Junction Solar Cell Structures: Development of Solar Cells and Catalysts, Upscaling of Combined Photovoltaic-Electrochemical Devices and Performance Stability. Zeitschrift Fur Physikalische Chemie, 2020, 234, 1055-1095.	1.4	19
6	Stability and Degradation Mechanismof Si-based Photocathodes for Water Splitting with Ultrathin TiO₂ Protection Layer. Zeitschrift Fur Physikalische Chemie, 2020, 234, 1171-1184.	1.4	2
7	Bifunctional CoFeVO<i>_x</i> Catalyst for Solar Water Splitting by using Multijunction and Heterojunction Silicon Solar Cells. Advanced Materials Technologies, 2020, 5, 2000592.	3.0	13
8	Design Considerations of Efficient Photo-Electrosynthetic Cells and its Realization Using Buried Junction Si Thin Film Multi Absorber Cells. Zeitschrift Fur Physikalische Chemie, 2020, 234, 549-604.	1.4	8
9	An integrated photoanode based on non-critical raw materials for robust solar water splitting. Materials Advances, 2020, 1, 1202-1211.	2.6	4
10	Integrated Devices for Photoelectrochemical Water Splitting Using Adapted Silicon Based Multi-Junction Solar Cells Protected by ALD TiO₂ Coatings. Zeitschrift Fur Physikalische Chemie, 2020, 234, 1155-1169.	1.4	5
11	Upscaling high activity oxygen evolution catalysts based on CoFe2O4 nanoparticles supported on nickel foam for power-to-gas electrochemical conversion with energy efficiencies above 80%. Applied Catalysis B: Environmental, 2019, 259, 118055.	10.8	35
12	Inverted Pyramid Textured p-Silicon Covered with Co₂P as an Efficient and Stable Solar Hydrogen Evolution Photocathode. ACS Energy Letters, 2019, 4, 1755-1762.	8.8	35
13	Optimizing Thermoelectric Power Factor in p-Type Hydrogenated Nano-crystalline Silicon Thin Films by Varying Carrier Concentration. Journal of Electronic Materials, 2019, 48, 2085-2094.	1.0	6
14	Silicon Thin Films: Functional Materials for Energy, Healthcare, and IT Applications. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1800847.	0.8	1
15	Multilayered Hematite Nanowires with Thinâ€Film Silicon Photovoltaics in an Allâ€Earthâ€Abundant Hybrid Tandem Device for Solar Water Splitting. ChemSusChem, 2019, 12, 1428-1436.	3.6	17
16	Solar vanadium redox-flow battery powered by thin-film silicon photovoltaics for efficient photoelectrochemical energy storage. Journal Physics D: Applied Physics, 2019, 52, 044001.	1.3	23
17	Light trapping in thin film silicon solar cells <i>via</i> phase separated disordered nanopillars. Nanoscale, 2018, 10, 6651-6659.	2.8	23
18	Hydrogenated Nano-/Micro-Crystalline Silicon Thin-Films for Thermoelectrics. Journal of Electronic Materials, 2018, 47, 3077-3084.	1.0	7

#	Article	IF	Citations
19	Versatility of doped nanocrystalline silicon oxide for applications in silicon thin-film and heterojunction solar cells. Solar Energy Materials and Solar Cells, 2018, 174, 196-201.	3.0	45
20	Vapor textured aluminum-doped zinc oxide on cellophane paper for flexible thin film solar cells. Solar Energy Materials and Solar Cells, 2018, 188, 105-111.	3.0	10
21	The Influence of Operation Temperature and Variations of the Illumination on the Performance of Integrated Photoelectrochemical Waterâ€Splitting Devices. ChemElectroChem, 2017, 4, 2099-2108.	1.7	15
22	Influence of ZnSnO x barrier layer on the texturing of ZnO:Al layers for light management in flexible thin-film silicon solar cells. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1600884.	0.8	4
23	Mechanical Properties of ZTO, ITO, and a-Si:H Multilayer Films for Flexible Thin Film Solar Cells. Materials, 2017, 10, 245.	1.3	23
24	Light management in flexible thinâ€film solar cells on transparent plastic substrates. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 1955-1963.	0.8	4
25	Modeling and practical realization of thin film siliconâ€based integrated solar water splitting devices. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 1738-1746.	0.8	24
26	The Effect of the Illumination Intensity on the Performance of Si Multijunction based Integrated Photoelectrochemical water Splitting Devices. Energy Procedia, 2016, 102, 36-42.	1.8	7
27	Interface engineering of titanium oxide protected a-Si:H/a-Si:H photoelectrodes for light induced water splitting. Applied Surface Science, 2016, 389, 73-79.	3.1	7
28	Impact of Light-Induced Degradation on the Performance of Multijunction Thin-Film Silicon-Based Photoelectrochemical Water-Splitting Devices. ACS Omega, 2016, 1, 832-836.	1.6	13
29	Band engineering for efficient catalyst-substrate coupling for photoelectrochemical water splitting. Physical Chemistry Chemical Physics, 2016, 18, 10751-10757.	1.3	13
30	Multijunction Si photocathodes with tunable photovoltages from 2.0 V to 2.8 V for light induced water splitting. Energy and Environmental Science, 2016, 9, 145-154.	15.6	156
31	Influence of the operating temperature on the performance of silicon based photoelectrochemical devices for water splitting. Materials Science in Semiconductor Processing, 2016, 42, 142-146.	1.9	17
32	Light-induced degradation of adapted quadruple junction thin film silicon solar cells for photoelectrochemical water splitting. Solar Energy Materials and Solar Cells, 2016, 145, 142-147.	3.0	27
33	Preparation and measurement of highly efficient aâ€Si:H single junction solar cells and the advantages of <i>Î¼</i>câ€SiO_x:H <i>n</i>â€layers. Progress in Photovoltaics: Research and Applications, 2015, 23, 939-948.	4.4	43
34	Angular dependence of light trapping in nanophotonic thin-film solar cells. Optics Express, 2015, 23, A1575.	1.7	10
35	Tuning of the open-circuit voltage by wide band-gap absorber and doped layers in thin film silicon solar cells. Physica Status Solidi - Rapid Research Letters, 2015, 9, 453-456.	1.2	3
36	Modelling Performance of Two- And Four-terminal Thin-film Silicon Tandem Solar Cells under Varying Spectral Conditions. Energy Procedia, 2015, 84, 251-260.	1.8	14

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37	Electronic and Structural Properties of N-Type Microcrystalline Silicon Oxide (Mc-Siox:H) Films for Applications in Thin Film Silicon Solar Cells. Energy Procedia, 2015, 84, 71-77.	1.8	7
38	Light Management in Flexible Thin-Film Solar Cellsâ€"The Role of Nanoimprinted Textures and Tilted Surfaces. IEEE Journal of Photovoltaics, 2015, 5, 1646-1653.	1.5	8
39	Effects of oxygen incorporation in solar cells with a-SiOx:H absorber layer. Japanese Journal of Applied Physics, 2015, 54, 011401.	0.8	14
40	Application and modeling of an integrated amorphous silicon tandem based device for solar water splitting. Solar Energy Materials and Solar Cells, 2015, 140, 275-280.	3.0	49
41	Nanoimprint texturing of transparent flexible substrates for improved light management in thinâ€film solar cells. Physica Status Solidi - Rapid Research Letters, 2015, 9, 215-219.	1.2	16
42	An electron beam evaporated TiO₂layer for high efficiency planar perovskite solar cells on flexible polyethylene terephthalate substrates. Journal of Materials Chemistry A, 2015, 3, 22824-22829.	5.2	116
43	Thin-film silicon solar cells fabricated at low temperature: A versatile technology for application on transparent flexible plastic substrates and in integrated photoelectrochemical water splitting modules. , 2014, , .		6
44	Reversible and irreversible effects after oxygen exposure in thick (>1 Î¼m) silicon films deposited by VHF-PECVD on glass substrates investigated by dual beam photoconductivity. Canadian Journal of Physics, 2014, 92, 778-782.	0.4	3
45	Investigation of meta- and in-stability effects in hydrogenated microcrystalline silicon thin films by the steady-state measurement methods. Canadian Journal of Physics, 2014, 92, 768-773.	0.4	3
46	a-Si:H/Âµc-Si:H tandem junction based photocathodes with high open-circuit voltage for efficient hydrogen production. Journal of Materials Research, 2014, 29, 2605-2614.	1.2	34
47	Photoelectrochemical and Photovoltaic Characteristics of Amorphousâ€Siliconâ€Based Tandem Cells as Photocathodes for Water Splitting. ChemPhysChem, 2014, 15, 4026-4031.	1.0	27
48	Investigation of metastability and instability effects on the minority carrier transport properties of microcrystalline silicon thin films by using the steady-state photocarrier grating technique. Canadian Journal of Physics, 2014, 92, 763-767.	0.4	3
49	On the geometry of plasmonic reflection grating back contacts for light trapping in prototype amorphous silicon thin-film solar cells. Journal of Photonics for Energy, 2014, 5, 057004.	0.8	12
50	Relationship between absorber layer defect density and performance of aâ€Si:H and Âµcâ€Si:H solar cells studied over a wide range of defect densities generated by 2 MeV electron bombardment. Solar Energy Materials and Solar Cells, 2014, 129, 17-31.	3.0	14
51	Equivalent-circuit and Transport-based Mobility Models of Microcrystalline Silicon Solar Cells. Energy Procedia, 2014, 44, 192-202.	1.8	2
52	Solutionâ€Based Silicon in Thinâ€Film Solar Cells. Advanced Energy Materials, 2014, 4, 1301871.	10.2	31
53	Electronic properties of undoped microcrystalline silicon oxide films. Canadian Journal of Physics, 2014, 92, 753-757.	0.4	1
54	ZnO based Back Reflectors with a Wide Range of Surface Morphologies for Light Trapping in n-i-p Microcrystalline Silicon Solar Cells. Energy Procedia, 2014, 44, 223-228.	1.8	3

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55	Plasmonic back contacts with non-ordered Ag nanostructures for light trapping in thin-film silicon solar cells. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2013, 178, 630-634.	1.7	15
56	Wide Gap Microcrystalline Silicon Oxide Emitter for a-SiO_x:H/c-Si Heterojunction Solar Cells. Japanese Journal of Applied Physics, 2013, 52, 122304.	0.8	38
57	Properties of thin-film silicon solar cells at very high irradiance. Journal of Non-Crystalline Solids, 2012, 358, 2202-2205.	1.5	2
58	Variation of the defect density in a-Si:H and Î¼c-Si:H based solar cells with 2 MeV electron bombardment. Journal of Non-Crystalline Solids, 2012, 358, 2198-2201.	1.5	5
59	Metastability effects in hydrogenated microcrystalline silicon thin films investigated by the dual beam photoconductivity method. Journal of Non-Crystalline Solids, 2012, 358, 2074-2077.	1.5	13
60	Microcrystalline silicon n-i-p solar cells prepared with microcrystalline silicon oxide (Î¼c-SiOx:H) n-layer. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, NA-NA.	0.8	47
61	Window layer development for microcrystalline silicon solar cells in nâ€iâ€p configuration. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 1069-1072.	0.8	21
62	Intensity dependence of quantum efficiency and photoâ€gating effects in thin film silicon solar cells. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 505-508.	0.8	7
63	Correlation of structural and optoelectronic properties of thin film silicon prepared at the transition from microcrystalline to amorphous growth. Thin Solid Films, 2009, 517, 6392-6395.	0.8	12
64	Multijunction Si Solar Cells for Integrated Photo-Electrochemical Devices. , 0, , .		0