Jae Sung Yun

List of Publications by Year
in descending order

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58 papers	4,109 citations	218592 26 h-index	161767 54 g-index
62 all docs	62 docs citations	62 times ranked	5841 citing authors

#	Article	IF	Citations
1	Benefit of Grain Boundaries in Organicâ€“Inorganic Halide Planar Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2015, 6, 875-880.	2.1	422
2	Beneficial Effects of PbI₂ Incorporated in Organoâ€Lead Halide Perovskite Solar Cells. Advanced Energy Materials, 2016, 6, 1502104.	10.2	387
3	Critical Role of Grain Boundaries for Ion Migration in Formamidinium and Methylammonium Lead Halide Perovskite Solar Cells. Advanced Energy Materials, 2016, 6, 1600330.	10.2	360
4	Mixed 3Dâ€“2D Passivation Treatment for Mixedâ€Cation Lead Mixedâ€Halide Perovskite Solar Cells for Higher Efficiency and Better Stability. Advanced Energy Materials, 2018, 8, 1703392.	10.2	289
5	Passivation of Grain Boundaries by Phenethylammonium in Formamidinium-Methylammonium Lead Halide Perovskite Solar Cells. ACS Energy Letters, 2018, 3, 647-654.	8.8	283
6	Humidityâ€Induced Degradation via Grain Boundaries of HC(NH₂)₂PbI₃ Planar Perovskite Solar Cells. Advanced Functional Materials, 2018, 28, 1705363.	7.8	260
7	High-Efficiency Rubidium-Incorporated Perovskite Solar Cells by Gas Quenching. ACS Energy Letters, 2017, 2, 438-444.	8.8	247
8	CsPbIBr₂ Perovskite Solar Cell by Spray-Assisted Deposition. ACS Energy Letters, 2016, 1, 573-577.	8.8	230
9	Exploring Inorganic Binary Alkaline Halide to Passivate Defects in Lowâ€Temperatureâ€Processed Planarâ€Structure Hybrid Perovskite Solar Cells. Advanced Energy Materials, 2018, 8, 1800138.	10.2	186
10	Overcoming the Challenges of Large-Area High-Efficiency Perovskite Solar Cells. ACS Energy Letters, 2017, 2, 1978-1984.	8.8	130
11	Unveiling the Relationship between the Perovskite Precursor Solution and the Resulting Device Performance. Journal of the American Chemical Society, 2020, 142, 6251-6260.	6.6	103
12	Solution-Processed, Silver-Doped NiO_x as Hole Transporting Layer for High-Efficiency Inverted Perovskite Solar Cells. ACS Applied Energy Materials, 2018, 1, 561-570.	2.5	95
13	Light- and bias-induced structural variations in metal halide perovskites. Nature Communications, 2019, 10, 444.	5.8	81
14	Nucleation and Growth Control of HC(NH2)2PbI3 for Planar Perovskite Solar Cell. Journal of Physical Chemistry C, 2016, 120, 11262-11267.	1.5	80
15	Electric field induced reversible and irreversible photoluminescence responses in methylammonium lead iodide perovskite. Journal of Materials Chemistry C, 2016, 4, 9060-9068.	2.7	77
16	An effective method of predicting perovskite solar cell lifetimeâ€“Case study on planar CH 3 NH 3 PbI 3 and HC(NH 2) 2 PbI 3 perovskite solar cells and hole transfer materials of spiro-OMeTAD and PTAA. Solar Energy Materials and Solar Cells, 2017, 162, 41-46.	3.0	77
17	Probing Facet-Dependent Surface Defects in MAPbI₃ Perovskite Single Crystals. Journal of Physical Chemistry C, 2019, 123, 14144-14151.	1.5	70
18	Device design rules and operation principles of high-power perovskite solar cells for indoor applications. Nano Energy, 2020, 68, 104321.	8.2	70

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19	The Role of Hydrogen from ALDâ€Al₂O₃ in Kesterite Cu₂ZnSnS₄ Solar Cells: Grain Surface Passivation. Advanced Energy Materials, 2018, 8, 1701940.	10.2	68
20	Spatial Distribution of Lead Iodide and Local Passivation on Organo-Lead Halide Perovskite. ACS Applied Materials & Interfaces, 2017, 9, 6072-6078.	4.0	62
21	Lessons Learnt from Spatially Resolved Electroâ€and Photoluminescence Imaging: Interfacial Delamination in CH₃NH₃PbI₃ Planar Perovskite Solar Cells upon Illumination. Advanced Energy Materials, 2017, 7, 1602111.	10.2	50
22	Polycrystalline silicon on glass thin-film solar cells: A transition from solid-phase to liquid-phase crystallised silicon. Solar Energy Materials and Solar Cells, 2013, 119, 246-255.	3.0	48
23	Transparent Electrodes Consisting of a Surfaceâ€Treated Buffer Layer Based on Tungsten Oxide for Semitransparent Perovskite Solar Cells and Fourâ€Terminal Tandem Applications. Small Methods, 2020, 4, 2000074.	4.6	41
24	Investigation of low intensity light performances of kesterite CZTSe, CZTSSe, and CZTS thin film solar cells for indoor applications. Journal of Materials Chemistry A, 2020, 8, 14538-14544.	5.2	40
25	Enhanced Holeâ€Carrier Selectivity in Wide Bandgap Halide Perovskite Photovoltaic Devices for Indoor Internet of Things Applications. Advanced Functional Materials, 2021, 31, 2008908.	7.8	31
26	Polymethyl Methacrylate as an Interlayer Between the Halide Perovskite and Copper Phthalocyanine Layers for Stable and Efficient Perovskite Solar Cells. Advanced Functional Materials, 2022, 32, .	7.8	30
27	Kinetics of light-induced degradation in semi-transparent perovskite solar cells. Solar Energy Materials and Solar Cells, 2021, 219, 110776.	3.0	29
28	Electro- and photoluminescence imaging as fast screening technique of the layer uniformity and device degradation in planar perovskite solar cells. Journal of Applied Physics, 2016, 120, .	1.1	27
29	Achieving Low V_{OC}-deficit Characteristics in Cu₂ZnSn(S,Se)₄ Solar Cells through Improved Carrier Separation. ACS Applied Materials & Interfaces, 2021, 13, 429-437.	4.0	27
30	Improvement of Csâ€(FAPbI₃)_{0.85}(MAPbBr₃)_{0.15} Quality Via DMSOâ€Moleculeâ€Control to Increase the Efficiency and Boost the Longâ€Term Stability of 1â€‰cm² Sized Planar Perovskite Solar Cells. Solar Rrl, 2019, 3, 1800338.	3.1	21
31	Chlorine Incorporation in Perovskite Solar Cells for Indoor Light Applications. Cell Reports Physical Science, 2020, 1, 100273.	2.8	21
32	Micro-structural defects in polycrystalline silicon thin-film solar cells on glass by solid-phase crystallisation and laser-induced liquid-phase crystallisation. Solar Energy Materials and Solar Cells, 2015, 132, 282-288.	3.0	20
33	Engineering of Interface and Bulk Properties in Cu₂ZnSn(S,Se)₄ Thin-Film Solar Cells with Ultrathin CuAlO₂ Intermediate Layer and Ge Doping. ACS Applied Energy Materials, 2022, 5, 2024-2035.	2.5	16
34	Effect of deposition temperature on electron-beam evaporated polycrystalline silicon thin-film and crystallized by diode laser. Applied Physics Letters, 2014, 104, .	1.5	13
35	Enhancing CZTSSe solar cells through electric field induced ion migration. Journal of Materials Chemistry A, 2022, 10, 5642-5649.	5.2	12
36	Transparent Electrodes with Enhanced Infrared Transmittance for Semitransparent and Four-Terminal Tandem Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2021, 13, 30497-30503.	4.0	11

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37	Unraveling the hysteretic behavior at double cations-double halides perovskite - electrode interfaces. Nano Energy, 2021, 89, 106428.	8.2	11
38	Suppression of Defects Through Cation Substitution: A Strategic Approach to Improve the Performance of Kesterite Cu₂ZnSn(S,Se)₄ Solar Cells Under Indoor Light Conditions. Solar Rrl, 2021, 5, 2100020.	3.1	10
39	Probing Charge Carrier Properties and Ion Migration Dynamics of Indoor Halide Perovskite PV Devices Using Topâ€•and Bottomâ€‐Illumination SPM Studies. Advanced Energy Materials, 2021, 11, 2101739.	10.2	9
40	Selfâ€‐Assembled Perovskite Nanoislands on CH₃NH₃PbI₃ Cuboid Single Crystals by Energetic Surface Engineering. Advanced Functional Materials, 2021, 31, 2105542.	7.8	9
41	Microstructural Evaluation of Phase Instability in Large Bandgap Metal Halide Perovskites. ACS Nano, 2021, 15, 20391-20402.	7.3	8
42	Diode laser crystallization processes of Si thin-film solar cells on glass. EPJ Photovoltaics, 2014, 5, 55204.	0.8	7
43	Focussed Review of Utilization of Graphene-Based Materials in Electron Transport Layer in Halide Perovskite Solar Cells: Materials-Based Issues. Energies, 2020, 13, 6335.	1.6	7
44	Characterization of a Cu2 ZnSnS4 solar cell fabricated by sulfurization of metallic precursor Mo/Zn/Cu/Sn. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2074-2079.	0.8	6
45	Revealing the Dynamics of the Thermal Reaction between Copper and Mixed Halide Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2022, 14, 20866-20874.	4.0	6
46	Correlation of the crystal orientation and electrical properties of silicon thin films on glass crystallized by line focus diode laser. Thin Solid Films, 2016, 609, 12-18.	0.8	5
47	Suppressing Halide Segregation in Wide-Band-Gap Mixed-Halide Perovskite Layers through Post-Hot Pressing. ACS Applied Materials & Interfaces, 2022, , .	4.0	4
48	Controllable Acceleration and Deceleration of Charge Carrier Transport in Metalâ€‐Halide Perovskite Singleâ€‐Crystal by Csâ€‐Cation Induced Bandgap Engineering. Small, 2022, 18, e2107680.	5.2	3
49	Unveiling the Importance of Precursor Preparation for Highly Efficient and Stable Phenethylammoniumâ€‐Based Perovskite Solar Cells. Solar Rrl, 2020, 4, 1900463.	3.1	2
50	Contactless Series Resistance Imaging of Perovskite Solar Cells via Inhomogeneous Illumination. Solar Rrl, 2021, 5, 2100655.	3.1	2
51	Spatially confined atomic dispersion of metals in thermally reduced graphene oxide films. Carbon, 2022, 188, 367-375.	5.4	2
52	Fluorine-mediated porosity and crystal-phase tailoring of meso-macroporous F TiO2 nanofibers and their enhanced photocatalytic performance. Thin Solid Films, 2019, 689, 137523.	0.8	1
53	Selfâ€‐Assembled Perovskite Nanoislands on CH₃NH₃PbI₃ Cuboid Single Crystals by Energetic Surface Engineering (Adv. Funct. Mater. 50/2021). Advanced Functional Materials, 2021, 31, .	7.8	1
54	Fabrication of Thin and Thick Films of Photocatalytic Titania. Advances in Science and Technology, 0, , .	0.2	0

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55	Material characteristics of crystalline Si thin-film solar cells on glass fabricated by diode laser crystallization. , 2013, , .		0
56	Photoluminescence Characterization of Phosphorus Diffusion and Hydrogenation in Continuous Wave Diode Laser Crystallized Si Thin-Film on Glass.. Materials Research Society Symposia Proceedings, 2014, 1638, 1.	0.1	0
57	Reconsideration of the gallium nitride: Dual functionality as an electron transporter and transparent conductor for recyclable polymer solar cell substrate applications. Solar Energy Materials and Solar Cells, 2019, 200, 109971.	3.0	0
58	Unveiling the Importance of Precursor Preparation for Highly Efficient and Stable Phenethylammoniumâ€Based Perovskite Solar Cells. Solar Rrl, 2020, 4, 2070043.	3.1	0