# Antoine Descoeudres

List of Publications by Year
in descending order



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|---|---|---|---|
| 63 papers | 4,529 citations | 156536 32 h-index | 263392 45 g-index |
| 63 all docs | 63 docs citations | 63 times ranked | 3989 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Bottom-Up and Top-Down Approaches for Identifying and Mitigating Electrical Losses in Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2022, 12, 906-914. | 1.5 | 1 |
| 2 | Advanced method for electrical characterization of carrier-selective passivating contacts using transfer-length-method measurements under variable illumination. Journal of Applied Physics, 2021, 129, . | 1.1 | 7 |
| 3 | The versatility of passivating carrierâ€selective silicon thin films for diverse highâ€efficiency screenâ€printed heterojunctionâ€based solar cells. Progress in Photovoltaics: Research and Applications, 2020, 28, 569-577. | 4.4 | 23 |
| 4 | Multiple dehydrogenation reactions of negative ions in low pressure silane plasma chemistry. Plasma Sources Science and Technology, 2020, 29, 105015. | 1.3 | 0 |
| 5 | Aluminium-Doped Zinc Oxide Rear Reflectors for High-Efficiency Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 1217-1224. | 1.5 | 29 |
| 6 | Optimization of tunnel-junction IBC solar cells based on a series resistance model. Solar Energy Materials and Solar Cells, 2019, 200, 110036. | 3.0 | 26 |
| 7 | Rear-emitter silicon heterojunction solar cells with atomic layer deposited ZnO:Al serving as an alternative transparent conducting oxide to In2O3:Sn. Solar Energy Materials and Solar Cells, 2019, 200, 109953. | 3.0 | 24 |
| 8 | Record-Efficiency n-Type and High-Efficiency p-Type Monolike Silicon Heterojunction Solar Cells with a High-Temperature Gettering Process. ACS Applied Energy Materials, 2019, 2, 4900-4906. | 2.5 | 13 |
| 9 | Low-temperature processes for passivation and metallization of high-efficiency crystalline silicon solar cells. Solar Energy, 2018, 175, 54-59. | 2.9 | 42 |
| 10 | Interdigitated back contact silicon heterojunction solar cells featuring an interband tunnel junction enabling simplified processing. Solar Energy, 2018, 175, 60-67. | 2.9 | 15 |
| 11 | Direct Contact to TCO with SmartWire Connection Technology. , 2018, , . | | 2 |
| 12 | Silicon Heterojunction Solar Cells on Quasi-mono Wafers. , 2018, , . | | 4 |
| 13 | Engineering of Thin-Film Silicon Materials for High Efficiency Crystalline Silicon Solar Cells. , 2018, , . | | 1 |
| 14 | Simple processing of back-contacted silicon heterojunction solar cells using selective-area crystalline growth. Nature Energy, 2017, 2, . | 19.8 | 95 |
| 15 | Demonstrating the high Voc potential of PEDOT:PSS/c-Si heterojunctions on solar cells. Energy Procedia, 2017, 124, 593-597. | 1.8 | 17 |
| 16 | ITO/MoOx/a-Si:H(i) Hole-Selective Contacts for Silicon Heterojunction Solar Cells: Degradation Mechanisms and Cell Integration. IEEE Journal of Photovoltaics, 2017, 7, 1584-1590. | 1.5 | 52 |
| 17 | Raising the one-sun conversion efficiency of IIIâ€“V/Si solar cells to 32.8% for two junctions andÂ35.9% for three junctions. Nature Energy, 2017, 2, . | 19.8 | 424 |
| 18 | Increasing the efficiency of silicon heterojunction solar cells and modules by light soaking. Solar Energy Materials and Solar Cells, 2017, 173, 43-49. | 3.0 | 65 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Mechanically stacked 4-terminal III-V/Si tandem solar cells. , 2017, , . | | 2 |
| 20 | Advanced silicon thin films for high-efficiency silicon heterojunction-based solar cells. , 2017, , . | | 9 |
| 21 | Asymmetric band offsets in silicon heterojunction solar cells: Impact on device performance. Journal of Applied Physics, 2016, 120, 054501. | 1.1 | 17 |
| 22 | Light-induced performance increase of silicon heterojunction solar cells. Applied Physics Letters, 2016, 109, . | 1.5 | 67 |
| 23 | Boosting the efficiency of III-V/Si tandem solar cells. , 2016, , . | | 6 |
| 24 | Realization of GaInP/Si Dual-Junction Solar Cells With 29.8% 1-Sun Efficiency. IEEE Journal of Photovoltaics, 2016, 6, 1012-1019. | 1.5 | 114 |
| 25 | Strategies for Doped Nanocrystalline Silicon Integration in Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 1132-1140. | 1.5 | 54 |
| 26 | New concept of PECVD reactor for efficient production of silicon heterojunction solar cells. , 2015, , . | | 1 |
| 27 | Manufacturing 100-Âµm-thick silicon solar cells with efficiencies greater than 20% in a pilot production line. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 13-24. | 0.8 | 44 |
| 28 | Silicon heterojunction solar cells with plated contacts for low to medium concentration photovoltaics. , 2015, , . | | 0 |
| 29 | Advances in crystalline silicon heterojunction research and opportunities for low manufacturing costs. , 2015, , . | | 1 |
| 30 | Metal-free crystalline silicon solar cells in module. , 2015, , . | | 3 |
| 31 | Silicon Heterojunction Solar Cells: Towards Low-cost High-Efficiency Industrial Devices and Application to Low-concentration PV. Energy Procedia, 2015, 77, 508-514. | 1.8 | 30 |
| 32 | Back-Contacted Silicon Heterojunction Solar Cells: Optical-Loss Analysis and Mitigation. IEEE Journal of Photovoltaics, 2015, 5, 1293-1303. | 1.5 | 45 |
| 33 | Amorphous silicon oxide window layers for high-efficiency silicon heterojunction solar cells. Journal of Applied Physics, 2014, 115, . | 1.1 | 113 |
| 34 | Amorphous Silicon/Crystalline Silicon Heterojunction Solar Cells. Semiconductors and Semimetals, 2014, , 73-120. | 0.4 | 26 |
| 35 | Back-Contacted Silicon Heterojunction Solar Cells With Efficiency >21%. IEEE Journal of Photovoltaics, 2014, 4, 1046-1054. | 1.5 | 70 |
| 36 | Photolithography-free interdigitated back-contacted silicon heterojunction solar cells with efficiency >21%. , 2014, , . | | 5 |

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|---|---|---|---|
| 37 | High-performance hetero-junction crystalline silicon photovoltaic technology. , 2014, , . | | 5 |
| 38 | Scanning Laser-Beam-Induced Current Measurements of Lateral Transport Near-Junction Defects in Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 154-159. | 1.5 | 7 |
| 39 | Silicon Heterojunction Solar Cells With Copper-Plated Grid Electrodes: Status and Comparison With Silver Thick-Film Techniques. IEEE Journal of Photovoltaics, 2014, 4, 1055-1062. | 1.5 | 96 |
| 40 | >21% Efficient Silicon Heterojunction Solar Cells on n- and p-Type Wafers Compared. IEEE Journal of Photovoltaics, 2013, 3, 83-89. | 1.5 | 187 |
| 41 | Hydrogen-doped indium oxide/indium tin oxide bilayers for high-efficiency silicon heterojunction solar cells. Solar Energy Materials and Solar Cells, 2013, 115, 151-156. | 3.0 | 153 |
| 42 | Infrared light management in high-efficiency silicon heterojunction and rear-passivated solar cells. Journal of Applied Physics, 2013, 113, . | 1.1 | 270 |
| 43 | Record Infrared Internal Quantum Efficiency in Silicon Heterojunction Solar Cells With Dielectric/Metal Rear Reflectors. IEEE Journal of Photovoltaics, 2013, 3, 1243-1249. | 1.5 | 92 |
| 44 | Experimental measurement of lateral transport in the inversion layer of silicon heterojunction solar cells. , 2013, , . | | 1 |
| 45 | Current Losses at the Front of Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2012, 2, 7-15. | 1.5 | 479 |
| 46 | Damage at hydrogenated amorphous/crystalline silicon interfaces by indium tin oxide overlayer sputtering. Applied Physics Letters, 2012, 101, . | 1.5 | 200 |
| 47 | A-Si:H/c-Si heterojunctions: a future mainstream technology for high-efficiency crystalline silicon solar cells?. , 2012, , . | | 3 |
| 48 | High-efficiency Silicon Heterojunction Solar Cells: A Review. Green, 2012, 2, 7-24. | 0.4 | 725 |
| 49 | Very fast light-induced degradation of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>a</mml:mi></mml:mrow></mml:math>-Si:H/<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>c</mml:mi></mml:mrow></mml:math>-Si(100) interfaces. Physical Review B, 2011, 83, . | 1.1 | 74 |
| 50 | A Oneâ€Dimensional Particleâ€inâ€Cell Model of Plasma Buildâ€Up in Vacuum Arcs. Contributions To Plasma Physics, 2011, 51, 5-21. | 0.5 | 51 |
| 51 | Improved amorphous/crystalline silicon interface passivation by hydrogen plasma treatment. Applied Physics Letters, 2011, 99, . | 1.5 | 238 |
| 52 | Increasing short-circuit current in silicon heterojunction solar cells. , 2011, , . | | 0 |
| 53 | High-efficiency silicon heterojunction solar cells: From physics to production lines. , 2010, , . | | 4 |
| 54 | Mechanism of surface modification in the plasma-surface interaction in electrical arcs. Physical Review B, 2010, 81, . | 1.1 | 38 |

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|---|---|---|---|
| 55 | The silane depletion fraction as an indicator for the amorphous/crystalline silicon interface passivation quality. Applied Physics Letters, 2010, 97, . | 1.5 | 90 |
| 56 | Investigation of the dc vacuum breakdown mechanism. Physical Review Special Topics: Accelerators and Beams, 2009, 12, . | 1.8 | 79 |
| 57 | dc breakdown conditioning and breakdown rate of metals and metallic alloys under ultrahigh vacuum. Physical Review Special Topics: Accelerators and Beams, 2009, 12, . | 1.8 | 76 |
| 58 | DC Breakdown Experiments. , 2009, , . | | 0 |
| 59 | Time- and spatially-resolved characterization of electrical discharge machining plasma. Plasma Sources Science and Technology, 2008, 17, 024008. | 1.3 | 33 |
| 60 | Time-resolved imaging and spatially-resolved spectroscopy of electrical discharge machining plasma. Journal Physics D: Applied Physics, 2005, 38, 4066-4073. | 1.3 | 56 |
| 61 | Optical emission spectroscopy of electrical discharge machining plasma. Journal of Materials Processing Technology, 2004, 149, 184-190. | 3.1 | 37 |
| 62 | Optical emission spectroscopy of electrical discharge machining plasma. Journal Physics D: Applied Physics, 2004, 37, 875-882. | 1.3 | 53 |
| 63 | Attachment-induced ionization instability in electronegative capacitive RF discharges. Plasma Sources Science and Technology, 2003, 12, 152-157. | 1.3 | 35 |