Fiona J Beck

List of Publications by Year
in descending order

44 papers	2,529 citations	279487 23 h-index	253896 43 g-index
44 all docs	44 docs citations	44 times ranked	3062 citing authors

#	Article	IF	Citations
1	Tunable light trapping for solar cells using localized surface plasmons. Journal of Applied Physics, 2009, 105, .	1.1	476
2	Designing periodic arrays of metal nanoparticles for light-trapping applications in solar cells. Applied Physics Letters, 2009, 95, .	1.5	214
3	Hysteresis phenomena in perovskite solar cells: the many and varied effects of ionic accumulation. Physical Chemistry Chemical Physics, 2017, 19, 3094-3103.	1.3	159
4	Asymmetry in photocurrent enhancement by plasmonic nanoparticle arrays located on the front or on the rear of solar cells. Applied Physics Letters, 2010, 96, .	1.5	153
5	Effective light trapping in polycrystalline silicon thin-film solar cells by means of rear localized surface plasmons. Applied Physics Letters, 2010, 96, .	1.5	128
6	The effect of dielectric spacer thickness on surface plasmon enhanced solar cells for front and rear side depositions. Journal of Applied Physics, 2011, 109, .	1.1	125
7	Plasmonic lightâ€trapping for Si solar cells using selfâ€assembled, Ag nanoparticles. Progress in Photovoltaics: Research and Applications, 2010, 18, 500-504.	4.4	114
8	The two faces of capacitance: New interpretations for electrical impedance measurements of perovskite solar cells and their relation to hysteresis. Journal of Applied Physics, 2018, 124, .	1.1	110
9	Plasmonics and nanophotonics for photovoltaics. MRS Bulletin, 2011, 36, 461-467.	1.7	108
10	â€˜Cleanâ€™ hydrogen? â€“ Comparing the emissions and costs of fossil fuel versus renewable electricity based hydrogen. Applied Energy, 2022, 306, 118145.	5.1	100
11	Light trapping with plasmonic particles: beyond the dipole model. Optics Express, 2011, 19, 25230.	1.7	70
12	Resonant SPP modes supported by discrete metal nanoparticles on high-index substrates. Optics Express, 2011, 19, A146.	1.7	65
13	Resonant nano-antennas for light trapping in plasmonic solar cells. Journal Physics D: Applied Physics, 2011, 44, 185101.	1.3	61
14	Over 17% Efficiency Standâ€Alone Solar Water Splitting Enabled by Perovskiteâ€Silicon Tandem Absorbers. Advanced Energy Materials, 2020, 10, 2000772.	10.2	58
15	Plasmonic light trapping leads to responsivity increase in colloidal quantum dot photodetectors. Applied Physics Letters, 2012, 100, .	1.5	52
16	Unconventional direct synthesis of Ni₃N/Ni with N-vacancies for efficient and stable hydrogen evolution. Energy and Environmental Science, 2022, 15, 185-195.	15.6	44
17	A re-evaluation of transparent conductor requirements for thin-film solar cells. Journal of Materials Chemistry A, 2016, 4, 4490-4496.	5.2	42
18	Imprinted Electrodes for Enhanced Light Trapping in Solution Processed Solar Cells. Advanced Materials, 2014, 26, 443-448.	11.1	40

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19	Photoluminescence study of time- and spatial-dependent light induced trap de-activation in CH₃NH₃PbI₃ perovskite films. Physical Chemistry Chemical Physics, 2016, 18, 22557-22564.	1.3	36
20	Direct Solar Hydrogen Generation at 20% Efficiency Using Lowâ€Cost Materials. Advanced Energy Materials, 2021, 11, 2101053.	10.2	35
21	Combined plasmonic and dielectric rear reflectors for enhanced photocurrent in solar cells. Applied Physics Letters, 2012, 100, .	1.5	34
22	Comparing nanowire, multijunction, and single junction solar cells in the presence of light trapping. Journal of Applied Physics, 2011, 109, .	1.1	27
23	Surface Plasmon Polariton Couplers for Light Trapping in Thin-Film Absorbers and Their Application to Colloidal Quantum Dot Optoelectronics. ACS Photonics, 2014, 1, 1197-1205.	3.2	26
24	Optically controlled grippers for manipulating micron-sized particles. New Journal of Physics, 2007, 9, 14-14.	1.2	24
25	Absorption Enhancement in Solution Processed Metal-Semiconductor Nanocomposites. Optics Express, 2011, 19, 21038.	1.7	24
26	Towards emissions certification systems for international trade in hydrogen: The policy challenge of defining boundaries for emissions accounting. Energy, 2021, 215, 119139.	4.5	24
27	Global emissions implications from co-combusting ammonia in coal fired power stations: An analysis of the Japan-Australia supply chain. Journal of Cleaner Production, 2022, 336, 130092.	4.6	21
28	Contributing to regional decarbonization: Australia's potential to supply zero-carbon commodities to the Asia-Pacific. Energy, 2022, 248, 123563.	4.5	20
29	Electrical effects of metal nanoparticles embedded in ultra-thin colloidal quantum dot films. Applied Physics Letters, 2012, 101, 041103.	1.5	19
30	Enhanced light trapping in solar cells using snow globe coating. Progress in Photovoltaics: Research and Applications, 2012, 20, 837-842.	4.4	18
31	Diffuse reflectors for improving light management in solar cells: a review and outlook. Journal of Optics (United Kingdom), 2017, 19, 014001.	1.0	13
32	Rational Integration of Photovoltaics for Solar Hydrogen Generation. ACS Applied Energy Materials, 2019, 2, 6395-6403.	2.5	13
33	Investigation of the mechanisms of plasmon-mediated photocatalysis: synergistic contribution of near-field and charge transfer effects. Journal of Materials Chemistry C, 2022, 10, 7511-7524.	2.7	13
34	Recognizing the role of uncertainties in the transition to renewable hydrogen. International Journal of Hydrogen Energy, 2022, 47, 27896-27910.	3.8	12
35	Analytical approach for design of blazed dielectric gratings for light trapping in solar cells. Journal Physics D: Applied Physics, 2011, 44, 055103.	1.3	11
36	Plasmonic Schottky Nanojunctions for Tailoring the Photogeneration Profile in Thin Film Solar Cells. Advanced Optical Materials, 2014, 2, 493-500.	3.6	10

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37	The Importance of Schottky Barrier Height in Plasmonically Enhanced Hotâ€Electron Devices. Advanced Optical Materials, 2021, 9, 2001121.	3.6	7
38	Quantifying and Comparing Fundamental Loss Mechanisms to Enable Solarâ€toâ€Hydrogen Conversion Efficiencies above 20% Using Perovskiteâ€"Silicon Tandem Absorbers. Advanced Energy and Sustainability Research, 2021, 2, 2000039.	2.8	5
39	Ultrathin HfO2 passivated silicon photocathodes for efficient alkaline water splitting. Applied Physics Letters, 2021, 119, .	1.5	5
40	Solar Water Splitting: Over 17% Efficiency Standâ€Alone Solar Water Splitting Enabled by Perovskiteâ€Silicon Tandem Absorbers (Adv. Energy Mater. 28/2020). Advanced Energy Materials, 2020, 10, 2070122.	10.2	4
41	Red-shifting the surface plasmon resonance of silver nanoparticles for light trapping in solar cells. Materials Research Society Symposia Proceedings, 2008, 1101, 1.	0.1	3
42	Understanding light trapping by resonant coupling to guided modes and the importance of the mode profile. Optics Express, 2016, 24, 759.	1.7	3
43	Direct solar to hydrogen conversion enabled by silicon photocathodes with carrier selective passivated contacts. Sustainable Energy and Fuels, 2022, 6, 349-360.	2.5	3
44	An optical trapped nanohand for manipulating micron-sized particles. , 2006, , .		0