Carl HÃ¤gglund

List of Publications by Year
in descending order

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54 papers	2,336 citations	185998 28 h-index	205818 48 g-index
55 all docs	55 docs citations	55 times ranked	3833 citing authors

#	Article	IF	Citations
1	Electromagnetic coupling of light into a silicon solar cell by nanodisk plasmons. Applied Physics Letters, 2008, 92, .	1.5	246
2	Enhanced charge carrier generation in dye sensitized solar cells by nanoparticle plasmons. Applied Physics Letters, 2008, 92, .	1.5	229
3	Enhanced Nanoplasmonic Optical Sensors with Reduced Substrate Effect. Nano Letters, 2008, 8, 3893-3898.	4.5	212
4	Self-Assembly Based Plasmonic Arrays Tuned by Atomic Layer Deposition for Extreme Visible Light Absorption. Nano Letters, 2013, 13, 3352-3357.	4.5	118
5	Plasmonic Near-Field Absorbers for Ultrathin Solar Cells. Journal of Physical Chemistry Letters, 2012, 3, 1275-1285.	2.1	113
6	Nanoscience and nanotechnology for advanced energy systems. Current Opinion in Solid State and Materials Science, 2006, 10, 132-143.	5.6	109
7	Maximized Optical Absorption in Ultrathin Films and Its Application to Plasmon-Based Two-Dimensional Photovoltaics. Nano Letters, 2010, 10, 3135-3141.	4.5	84
8	Tin oxide atomic layer deposition from tetrakis(dimethylamino)tin and water. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2013, 31, .	0.9	82
9	Atomic Layer Deposition of Cubic and Orthorhombic Phase Tin Monosulfide. Chemistry of Materials, 2017, 29, 2969-2978.	3.2	64
10	Zincâ€Tinâ€Oxide Buffer Layer and Low Temperature Post Annealing Resulting in a 9.0% Efficient Cdâ€Free Cu₂ZnSnS₄ Solar Cell. Solar Rrl, 2017, 1, 1700001.	3.1	62
11	Nanoparticle Plasmonics for 2D-Photovoltaics: Mechanisms, Optimization, and Limits. Optics Express, 2009, 17, 11944.	1.7	61
12	Strong Coupling of Plasmon and Nanocavity Modes for Dual-Band, Near-Perfect Absorbers and Ultrathin Photovoltaics. ACS Photonics, 2016, 3, 456-463.	3.2	61
13	Thin film characterization of zinc tin oxide deposited by thermal atomic layer deposition. Thin Solid Films, 2014, 556, 186-194.	0.8	50
14	Vapor transport deposition and epitaxy of orthorhombic SnS on glass and NaCl substrates. Applied Physics Letters, 2013, 103, .	1.5	49
15	Growth characteristics, material properties, and optical properties of zinc oxysulfide films deposited by atomic layer deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2012, 30, .	0.9	48
16	Comment on "Efficient Photochemical Water Splitting by a Chemically Modified n-TiO2" (II). Science, 2003, 301, 1673b-1673.	6.0	46
17	Highly efficient, transparent and stable semitransparent colloidal quantum dot solar cells: a combined numerical modeling and experimental approach. Energy and Environmental Science, 2017, 10, 216-224.	15.6	46
18	Correlating Growth Characteristics in Atomic Layer Deposition with Precursor Molecular Structure: The Case of Zinc Tin Oxide. Chemistry of Materials, 2014, 26, 2795-2802.	3.2	45

#	ARTICLE	IF	CITATIONS
19	Interference effects in photoluminescence spectra of Cu2ZnSnS4 and Cu(In,Ga)Se2 thin films. Journal of Applied Physics, 2015, 118, .	1.1	45
20	The effect of substrate temperature on atomic layer deposited zinc tin oxide. Thin Solid Films, 2015, 586, 82-87.	0.8	43
21	Grating formation by metal-nanoparticle-mediated coupling of light into waveguided modes. Nature Photonics, 2008, 2, 360-364.	15.6	40
22	In Situ Reactivity and FTIR Study of the Wet and Dry Photooxidation of Propane on Anatase TiO2. Journal of Physical Chemistry B, 2005, 109, 10886-10895.	1.2	39
23	On Monolayer Formation of Pyrenebutyric Acid on Graphene. Langmuir, 2017, 33, 3588-3593.	1.6	39
24	Nanoplasmonic biosensing with on-chip electrical detection. Biosensors and Bioelectronics, 2010, 26, 1131-1136.	5.3	37
25	Fine Tuned Nanolayered Metal/Metal Oxide Electrode for Semitransparent Colloidal Quantum Dot Solar Cells. Advanced Functional Materials, 2016, 26, 1921-1929.	7.8	37
26	Optical properties of reactively sputtered Cu2ZnSnS4 solar absorbers determined by spectroscopic ellipsometry and spectrophotometry. Solar Energy Materials and Solar Cells, 2016, 149, 170-178.	3.0	35
27	Thickness Dependence of Plasmonic Charge Carrier Generation in Ultrathin a-Si:H Layers for Solar Cells. ACS Nano, 2011, 5, 6218-6225.	7.3	30
28	Highly photostable and efficient semitransparent quantum dot solar cells by using solution-phase ligand exchange. Nano Energy, 2018, 53, 373-382.	8.2	29
29	Relaxation of plasmons in nm-sized metal particles located on or embedded in an amorphous semiconductor. Surface Science, 2005, 599, L372-L375.	0.8	28
30	Electroâ€Optics of Colloidal Quantum Dot Solids for Thinâ€Film Solar Cells. Advanced Functional Materials, 2016, 26, 1253-1260.	7.8	26
31	Charge distribution on and near Schottky nanocontacts. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 33, 296-302.	1.3	24
32	Resource efficient plasmon-based 2D-photovoltaics with reflective support. Optics Express, 2010, 18, A343.	1.7	24
33	Dryâ€Deposited Transparent Carbon Nanotube Film as Front Electrode in Colloidal Quantum Dot Solar Cells. ChemSusChem, 2017, 10, 434-441.	3.6	21
34	Atomic layer deposition of CdO and CdxZn1â^'xO films. Materials Chemistry and Physics, 2013, 140, 465-471.	2.0	18
35	Growth, intermixing, and surface phase formation for zinc tin oxide nanolaminates produced by atomic layer deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, .	0.9	18
36	Scalable residue-free graphene for surface-enhanced Raman scattering. Carbon, 2016, 98, 567-571.	5.4	16

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37	High Aspect Ratio Plasmonic Nanocones for Enhanced Light Absorption in Ultrathin Amorphous Silicon Films. Journal of Physical Chemistry C, 2014, 118, 22840-22846.	1.5	13
38	Portable atomic layer deposition reactor for in situ synchrotron photoemission studies. Review of Scientific Instruments, 2013, 84, 015104.	0.6	8
39	Charge transport in phthalocyanine thin-film transistors coupled with Fabryâ€“Perot cavities. Journal of Materials Chemistry C, 2021, 9, 2368-2374.	2.7	8
40	Rear Contact Passivation for High Bandgap Cu(In, Ga)Se<formula> <tex>$_{2}$</tex> </formula> Solar Cells With a Flat Ga profile. IEEE Journal of Photovoltaics, 2018, , 1-7.	1.5	6
41	Photoluminescence studies in epitaxial CZTSe thin films. Journal of Applied Physics, 2016, 120, 125701.	1.1	5
42	Seeded Growth of Large-Area Arrays of Substrate Supported Au Nanoparticles Using Citrate and Hydrogen Peroxide. Langmuir, 2020, 36, 6848-6858.	1.6	4
43	Substrate Effects on Crystal Phase in Atomic Layer Deposition of Tin Monosulfide. Chemistry of Materials, 2021, 33, 2901-2912.	3.2	4
44	FTO-free top-illuminated colloidal quantum dot photovoltaics: Enhanced electro-optics in devices. Solar Energy, 2017, 158, 533-542.	2.9	2
45	Process Window for Seeded Growth of Arrays of Quasi-Spherical Substrate-Supported Au Nanoparticles. Langmuir, 2021, 37, 6032-6041.	1.6	2
46	Ultrathin Solar Cells Based on Atomic Layer Deposition of Cubic versus Orthorhombic Tin Monosulfide. ACS Applied Energy Materials, 2021, 4, 8085-8097.	2.5	2
47	Precisely nanostructured HfO₂ rear passivation layers for ultraâ€thin Cu(In,Ga)Se₂. Progress in Photovoltaics: Research and Applications, 2022, 30, 1289-1297.	4.4	2
48	Metal nanoparticle arrays via a water-based lift-off scheme using a block copolymer template. Nanotechnology, 2022, 33, 325302.	1.3	2
49	Optical response of 3D nano-architecture solar cells and integration with 3D device physics. , 2011, , .		1
50	Back contact passivation effects in Bi-facial thin CIGS solar cells. , 2016, , .		1
51	Graded and alloyed II-VI semiconductors for photovoltaic buffer layers grown by atomic layer deposition (ALD). , 2011, , .		0
52	Rear contact passivation for high bandgap Cu(In, Ga)Se2 solar cells with varying absorber thickness and flat Ga profile. , 2017, , .		0
53	Back contact passivation effects in Bi-facial thin CIGS solar cells. , 2017, , .		0
54	Multiscale Optical Modeling of Perovskite-Si Tandem Solar Cells. Frontiers in Photonics, 0, 3, .	1.1	0