

Jao van de Lagemaat

List of Publications by Year in descending order

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92
papers

10,181
citations

53660

45
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51492

86
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94
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docs citations

94
times ranked

13655
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrastrong Coupling Leads to Slowed Cooling of Hot Excitons in Few-Layer Transition-Metal Dichalcogenides. <i>Journal of Physical Chemistry C</i> , 2022, 126, 8710-8719.	1.5	6
2	Plasmonic Hot Hole Transfer in Gold Nanoparticle-Decorated Transition Metal Dichalcogenide Nanosheets. <i>ACS Photonics</i> , 2020, 7, 197-202.	3.2	21
3	Plasmon-Mediated Coherent Superposition of Discrete Excitons under Strong Exciton-Plasmon Coupling in Few-Layer MoS ₂ at Room Temperature. <i>ACS Photonics</i> , 2020, 7, 1129-1134.	3.2	15
4	Control of quantum dot emission by colloidal plasmonic pyramids in a liquid crystal. <i>Optics Express</i> , 2020, 28, 5459.	1.7	3
5	Terawatt-scale photovoltaics: Transform global energy. <i>Science</i> , 2019, 364, 836-838.	6.0	320
6	Unique interfacial thermodynamics of few-layer 2D MoS ₂ for (photo)electrochemical catalysis. <i>Energy and Environmental Science</i> , 2019, 12, 1648-1656.	15.6	25
7	Liquid Crystalline Order and Electric Switching of Upconversion Luminescence in Colloidal Nanorod Suspensions. <i>Advanced Optical Materials</i> , 2019, 7, 1900041.	3.6	10
8	Dynamic Tuning of a Thin Film Electrocatalyst by Tensile Strain. <i>Scientific Reports</i> , 2019, 9, 15906.	1.6	21
9	Operation Mechanism of Perovskite Quantum Dot Solar Cells Probed by Impedance Spectroscopy. <i>ACS Energy Letters</i> , 2019, 4, 251-258.	8.8	73
10	Tuning and Switching a Plasmonic Quantum Dot "Sandwich" in a Nematic Line Defect. <i>ACS Nano</i> , 2018, 12, 2580-2590.	7.3	24
11	What Should We Make with CO ₂ and How Can We Make It?. <i>Joule</i> , 2018, 2, 825-832.	11.7	975
12	Direct Measurements of Carrier Transport in Polycrystalline Methylammonium Lead Iodide Perovskite Films with Transient Grating Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 5710-5717.	2.1	26
13	Dynamics of Photocatalytic Hydrogen Production in Aqueous Dispersions of Monolayer-Rich Tungsten Disulfide. <i>ACS Energy Letters</i> , 2018, 3, 2223-2229.	8.8	26
14	Effects of local environment on the ultra-fast carrier dynamics of photo-excited 2D transition metal dichalcogenides. , 2018, , .		1
15	Do grain boundaries dominate non-radiative recombination in CH ₃ NH ₃ PbI ₃ perovskite thin films?. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 5043-5050.	1.3	161
16	Semiconductor-to-Metal Transition in Rutile TiO ₂ Induced by Tensile Strain. <i>Chemistry of Materials</i> , 2017, 29, 2173-2179.	3.2	19
17	Experimental demonstration of photon upconversion via cooperative energy pooling. <i>Nature Communications</i> , 2017, 8, 14808.	5.8	33
18	Perovskite Photovoltaics: The Path to a Printable Terawatt-Scale Technology. <i>ACS Energy Letters</i> , 2017, 2, 2540-2544.	8.8	64

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19	Silicon Photoelectrode Thermodynamics and Hydrogen Evolution Kinetics Measured by Intensity-Modulated High-Frequency Resistivity Impedance Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 5253-5258.	2.1	16
20	Integrating nanostructured electrodes in organic photovoltaic devices for enhancing near-infrared photoresponse. <i>Organic Electronics</i> , 2016, 39, 59-63.	1.4	6
21	Large polarization-dependent exciton optical Stark effect in lead iodide perovskites. <i>Nature Communications</i> , 2016, 7, 12613.	5.8	98
22	Revisiting the Valence and Conduction Band Size Dependence of PbS Quantum Dot Thin Films. <i>ACS Nano</i> , 2016, 10, 3302-3311.	7.3	118
23	Observation of a hot-phonon bottleneck in lead-iodide perovskites. <i>Nature Photonics</i> , 2016, 10, 53-59.	15.6	760
24	Plasmonic Structures for Solar Energy Harvesting. , 2016, , 3294-3302.		0
25	Precision printing and optical modeling of ultrathin SWCNT/C ₆₀ heterojunction solar cells. <i>Nanoscale</i> , 2015, 7, 6556-6566.	2.8	40
26	Self-assembly and electrostriction of arrays and chains of hopfion particles in chiral liquid crystals. <i>Nature Communications</i> , 2015, 6, 6012.	5.8	83
27	Oxidatively Stable Nanoporous Silicon Photocathodes with Enhanced Onset Voltage for Photoelectrochemical Proton Reduction. <i>Nano Letters</i> , 2015, 15, 2517-2525.	4.5	80
28	Scanning Probe Characterization of Heterostructured Colloidal Nanomaterials. <i>Chemical Reviews</i> , 2015, 115, 8157-8181.	23.0	31
29	Energy Pooling Upconversion in Organic Molecular Systems. <i>Journal of Physical Chemistry A</i> , 2015, 119, 4009-4016.	1.1	20
30	A facile solvothermal growth of single crystal mixed halide perovskite CH ₃ NH ₃ Pb(Br _{1-x} Cl _x) ₃ . <i>Chemical Communications</i> , 2015, 51, 7820-7823.	2.2	135
31	Carrier separation and transport in perovskite solar cells studied by nanometre-scale profiling of electrical potential. <i>Nature Communications</i> , 2015, 6, 8397.	5.8	205
32	Plasmon-Exciton Interactions Probed Using Spatial Coentrapment of Nanoparticles by Topological Singularities. <i>ACS Nano</i> , 2015, 9, 12392-12400.	7.3	17
33	Surface plasmon enhanced infrared absorption in the sensitized polymer solar cell. , 2014, , .		1
34	Integrated optical and electrical modeling of plasmon-enhanced thin film photovoltaics: A case-study on organic devices. <i>Journal of Applied Physics</i> , 2014, 116, 114510.	1.1	6
35	Charge Generation in PbS Quantum Dot Solar Cells Characterized by Temperature-Dependent Steady-State Photoluminescence. <i>ACS Nano</i> , 2014, 8, 12814-12825.	7.3	59
36	Optically and elastically assembled plasmonic nanoantennae for spatially resolved characterization of chemical composition in soft matter systems using surface enhanced spontaneous and stimulated Raman scattering. <i>Journal of Applied Physics</i> , 2014, 116, 063511.	1.1	6

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37	Comprehensive device modeling of plasmon-enhanced and optical field-dependent photocurrent generation in organic bulk heterojunctions. , 2014, , .		0
38	Effect of fractal silver electrodes on charge collection and light distribution in semiconducting organic polymer films. Journal of Materials Chemistry A, 2014, 2, 16608-16616.	5.2	13
39	Substrate-controlled band positions in CH ₃ NH ₃ PbI ₃ perovskite films. Physical Chemistry Chemical Physics, 2014, 16, 22122-22130.	1.3	177
40	Two-dimensional skyrmions and other solitonic structures in confinement-frustrated chiral nematics. Physical Review E, 2014, 90, 012505.	0.8	109
41	Coupling between a Molecular Charge-Transfer Exciton and Surface Plasmons in a Nanostructured Metal Grating. Journal of Physical Chemistry Letters, 2013, 4, 2658-2663.	2.1	11
42	Optical generation, templating, and polymerization of three-dimensional arrays of liquid-crystal defects decorated by plasmonic nanoparticles. Physical Review E, 2013, 87, .	0.8	58
43	Built-in Potential and Charge Distribution within Single Heterostructured Nanorods Measured by Scanning Kelvin Probe Microscopy. Nano Letters, 2013, 13, 1278-1284.	4.5	43
44	Fast Current Blinking in Individual PbS and CdSe Quantum Dots. Nano Letters, 2013, 13, 2338-2345.	4.5	10
45	Sharp exponential band tails in highly disordered lead sulfide quantum dot arrays. Physical Review B, 2012, 86, .	1.1	55
46	Folding photons. Nature Photonics, 2012, 6, 278-280.	15.6	10
47	Shape-Dependent Oriented Trapping and Scaffolding of Plasmonic Nanoparticles by Topological Defects for Self-Assembly of Colloidal Dimers in Liquid Crystals. Nano Letters, 2012, 12, 955-963.	4.5	130
48	Comparing the Fundamental Physics and Device Performance of Transparent, Conductive Nanostructured Networks with Conventional Transparent Conducting Oxides. Advanced Energy Materials, 2012, 2, 353-360.	10.2	140
49	Activation Energy Spectra: Insights into Transport Limitations of Organic Semiconductors and Photovoltaic Cells. Advanced Functional Materials, 2012, 22, 1087-1091.	7.8	6
50	Excited-State Processes in First-Generation Phenyl-Cored Thiophene Dendrimers. Journal of Physical Chemistry A, 2011, 115, 2515-2522.	1.1	5
51	Photon management for photovoltaics. MRS Bulletin, 2011, 36, 424-428.	1.7	63
52	Optical characterization of pristine poly(3-hexyl thiophene) films. Journal of Polymer Science, Part B: Polymer Physics, 2011, 49, 186-194.	2.4	33
53	Time-of-Flight Studies of Electron Collection Kinetics in Polymer:Fullerene Bulk Heterojunction Solar Cells. Advanced Functional Materials, 2011, 21, 2580-2586.	7.8	70
54	Carbon nanotube network electrodes enabling efficient organic solar cells without a hole transport layer. Applied Physics Letters, 2010, 96, .	1.5	118

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55	Controlling the Optical Properties of Plasmonic Disordered Nanohole Silver Films. ACS Nano, 2010, 4, 615-624.	7.3	49
56	Nanoscale Imaging of Exciton Transport in Organic Photovoltaic Semiconductors by Tip-Enhanced Tunneling Luminescence. Nano Letters, 2009, 9, 3904-3908.	4.5	11
57	Luminescence of quantum dots by coupling with nonradiative surface plasmon modes in a scanning tunneling microscope. Physical Review B, 2009, 80, .	1.1	13
58	The Ultrafast Photophysics of Pentacene Coupled to Surface Plasmon Active Nanohole Films. Journal of Physical Chemistry C, 2009, 113, 6871-6877.	1.5	41
59	Temporal evolution of the electron diffusion coefficient in electrolyte-filled mesoporous nanocrystalline TiO ₂ films. Inorganica Chimica Acta, 2008, 361, 620-626.	1.2	24
60	Plasmon-enhanced solar energy conversion in organic bulk heterojunction photovoltaics. Applied Physics Letters, 2008, 92, .	1.5	427
61	Reversibility, Dopant Desorption, and Tunneling in the Temperature-Dependent Conductivity of Type-Separated, Conductive Carbon Nanotube Networks. ACS Nano, 2008, 2, 1968-1976.	7.3	113
62	Surface-plasmon enhanced transparent electrodes in organic photovoltaics. Applied Physics Letters, 2008, 92, 243304.	1.5	118
63	Single-wall carbon nanotube networks as a transparent back contact in CdTe solar cells. Applied Physics Letters, 2007, 90, 243503.	1.5	96
64	Plasmon excitations in scanning tunneling microscopy: Simultaneous imaging of modes with different localizations coupled at the tip. Applied Physics Letters, 2007, 90, 193109.	1.5	4
65	Annealing effects on surface-plasmon-enhanced bulk heterojunction organic photovoltaics. Proceedings of SPIE, 2007, , .	0.8	1
66	Replacement of Transparent Conductive Oxides by Single-Wall Carbon Nanotubes in Cu(In,Ga)Se ₂ -Based Solar Cells. Journal of Physical Chemistry C, 2007, 111, 14045-14048.	1.5	76
67	Bulk heterojunction organic photovoltaic devices based on phenyl-cored thiophene dendrimers. Applied Physics Letters, 2006, 89, 103524.	1.5	130
68	Imaging of Resonant Quenching of Surface Plasmons by Quantum Dots. Nano Letters, 2006, 6, 2833-2837.	4.5	33
69	Organic solar cells with carbon nanotubes replacing In ₂ O ₃ :Sn as the transparent electrode. Applied Physics Letters, 2006, 88, 233503.	1.5	354
70	Temperature dependence of the electron diffusion coefficient in electrolyte-filled TiO ₂ nanoparticle films: Evidence against multiple trapping in exponential conduction-band tails. Physical Review B, 2006, 73, .	1.1	100
71	Influence of Surface Area on Charge Transport and Recombination in Dye-Sensitized TiO ₂ Solar Cells. Journal of Physical Chemistry B, 2006, 110, 25174-25180.	1.2	184
72	Single-Wall Carbon Nanotubes as Transparent Electrodes for Photovoltaics. , 2006, , .		2

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73	Efficient Organic Excitonic Solar Cells with Carbon Nanotubes Replacing In ₂ O ₃ :Sn as the Transparent Electrode. , 2006, , .		0
74	Application of Single-Wall Carbon Nanotubes as Transparent Electrodes in Cu(In,Ga)Se ₂ -Based Solar Cells. , 2006, , .		10
75	Effect of nonideal statistics on electron diffusion in sensitized nanocrystalline TiO ₂ . Physical Review B, 2005, 71, .	1.1	45
76	Effect of a Coadsorbent on the Performance of Dye-Sensitized TiO ₂ Solar Cells: Shielding versus Band-Edge Movement. Journal of Physical Chemistry B, 2005, 109, 23183-23189.	1.2	294
77	Einstein relation for electron diffusion on arrays of weakly coupled quantum dots. Physical Review B, 2005, 72, .	1.1	12
78	Spatial location of transport-limiting traps in TiO ₂ nanoparticle films in dye-sensitized solar cells. Applied Physics Letters, 2005, 87, 202106.	1.5	183
79	Field-dependent charge carrier dynamics in GaN: Excitonic effects. Applied Physics Letters, 2004, 85, 958-960.	1.5	4
80	Electrons in nanostructured TiO ₂ solar cells: transport, recombination and photovoltaic properties. Coordination Chemistry Reviews, 2004, 248, 1165-1179.	9.5	766
81	Morphological and Photoelectrochemical Characterization of Core-Shell Nanoparticle Films for Dye-Sensitized Solar Cells: ZnO Type Shell on SnO ₂ and TiO ₂ Cores. Langmuir, 2004, 20, 4246-4253.	1.6	150
82	Standing Wave Enhancement of Red Absorbance and Photocurrent in Dye-Sensitized Titanium Dioxide Photoelectrodes Coupled to Photonic Crystals. Journal of the American Chemical Society, 2003, 125, 6306-6310.	6.6	564
83	Transport-Limited Recombination of Photocarriers in Dye-Sensitized Nanocrystalline TiO ₂ Solar Cells. Journal of Physical Chemistry B, 2003, 107, 11307-11315.	1.2	412
84	Diffusion-Limited Recombination in Dye-Sensitized TiO ₂ Solar Cells. Materials Research Society Symposia Proceedings, 2003, 789, 150.	0.1	0
85	Characteristics of Low-Temperature Annealed TiO ₂ Films Deposited by Precipitation from Hydrolyzed TiCl ₄ Solutions. Chemistry of Materials, 2002, 14, 1042-1047.	3.2	106
86	Determining the locus for photocarrier recombination in dye-sensitized solar cells. Applied Physics Letters, 2002, 80, 685-687.	1.5	86
87	Relation between Particle Coordination Number and Porosity in Nanoparticle Films: Implications to Dye-Sensitized Solar Cells. Journal of Physical Chemistry B, 2001, 105, 12433-12436.	1.2	154
88	Nonthermalized Electron Transport in Dye-Sensitized Nanocrystalline TiO ₂ Films: Transient Photocurrent and Random-Walk Modeling Studies. Journal of Physical Chemistry B, 2001, 105, 11194-11205.	1.2	447
89	Dye-Sensitized TiO ₂ Solar Cells: Structural and Photoelectrochemical Characterization of Nanocrystalline Electrodes Formed from the Hydrolysis of TiCl ₄ . Journal of Physical Chemistry B, 1999, 103, 3308-3314.	1.2	355
90	Strongly Photonic Macroporous Gallium Phosphide Networks. Science, 1999, 284, 141-143.	6.0	159

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91	Photoelectrochemical characterization of 6H α -SiC. Journal of Applied Physics, 1998, 83, 6089-6095.	1.1	33
92	Enhancement of the light-to-current conversion efficiency in an n α -SiC/solution diode by porous etching. Applied Physics Letters, 1996, 69, 2246-2248.	1.5	54