Ajay Ram Srimath Kandada

List of Publications by Year
in descending order

54 papers	7,893 citations	147801 31 h-index	168389 53 g-index
58 all docs	58 docs citations	58 times ranked	11095 citing authors

#	Article	IF	Citations
1	Excitons versus free charges in organo-lead tri-halide perovskites. Nature Communications, 2014, 5, 3586.	12.8	1,443
2	Highly efficient planar perovskite solar cells through band alignment engineering. Energy and Environmental Science, 2015, 8, 2928-2934.	30.8	1,097
3	Solution Synthesis Approach to Colloidal Cesium Lead Halide Perovskite Nanoplatelets with Monolayer-Level Thickness Control. Journal of the American Chemical Society, 2016, 138, 1010-1016.	13.7	747
4	Tuning the Light Emission Properties by Band Gap Engineering in Hybrid Lead Halide Perovskite. Journal of the American Chemical Society, 2014, 136, 17730-17733.	13.7	546
5	Defect-Assisted Photoinduced Halide Segregation in Mixed-Halide Perovskite Thin Films. ACS Energy Letters, 2017, 2, 1416-1424.	17.4	437
6	Carrier trapping and recombination: the role of defect physics in enhancing the open circuit voltage of metal halide perovskite solar cells. Energy and Environmental Science, 2016, 9, 3472-3481.	30.8	409
7	Broadband Emission in Two-Dimensional Hybrid Perovskites: The Role of Structural Deformation. Journal of the American Chemical Society, 2017, 139, 39-42.	13.7	336
8	17.6% stabilized efficiency in low-temperature processed planar perovskite solar cells. Energy and Environmental Science, 2015, 8, 2365-2370.	30.8	300
9	Phonon coherences reveal the polaronic character of excitons in two-dimensional lead halide perovskites. Nature Materials, 2019, 18, 349-356.	27.5	257
10	Role of microstructure in the electronâ€“hole interaction of hybrid lead halide perovskites. Nature Photonics, 2015, 9, 695-701.	31.4	226
11	CH₃NH₃PbI₃ perovskite single crystals: surface photophysics and their interaction with the environment. Chemical Science, 2015, 6, 7305-7310.	7.4	192
12	Ion Migration and the Role of Preconditioning Cycles in the Stabilization of the Jâ€“V Characteristics of Inverted Hybrid Perovskite Solar Cells. Advanced Energy Materials, 2016, 6, 1501453.	19.5	167
13	Plasmon Dynamics in Colloidal Cu_{2â€“x}Se Nanocrystals. Nano Letters, 2011, 11, 4711-4717.	9.1	158
14	Photoinduced Emissive Trap States in Lead Halide Perovskite Semiconductors. ACS Energy Letters, 2016, 1, 726-730.	17.4	137
15	Exciton-polaron spectral structures in two-dimensional hybrid lead-halide perovskites. Physical Review Materials, 2018, 2, .	2.4	116
16	Probing femtosecond lattice displacement upon photo-carrier generation in lead halide perovskite. Nature Communications, 2018, 9, 1971.	12.8	113
17	Photophysics of Hybrid Lead Halide Perovskites: The Role of Microstructure. Accounts of Chemical Research, 2016, 49, 536-544.	15.6	107
18	Exciton Polarons in Two-Dimensional Hybrid Metal-Halide Perovskites. Journal of Physical Chemistry Letters, 2020, 11, 3173-3184.	4.6	100

#	Article	IF	Citations
19	Stable biexcitons in two-dimensional metal-halide perovskites with strong dynamic lattice disorder. Physical Review Materials, 2018, 2, .	2.4	89
20	Plasmonics in heavily-doped semiconductor nanocrystals. European Physical Journal B, 2013, 86, 1.	1.5	76
21	Nonlinear Carrier Interactions in Lead Halide Perovskites and the Role of Defects. Journal of the American Chemical Society, 2016, 138, 13604-13611.	13.7	73
22	Modulating the Electronâ€“Hole Interaction in a Hybrid Lead Halide Perovskite with an Electric Field. Journal of the American Chemical Society, 2015, 137, 15451-15459.	13.7	61
23	N-Methylformamide as a Source of Methylammonium Ions in the Synthesis of Lead Halide Perovskite Nanocrystals and Bulk Crystals. ACS Energy Letters, 2016, 1, 1042-1048.	17.4	59
24	Integrated perovskite lasers on a silicon nitride waveguide platform by cost-effective high throughput fabrication. Optics Express, 2017, 25, 13199.	3.4	55
25	Fully Solutionâ€Processed nâ€“iâ€“pâ€Like Perovskite Solar Cells with Planar Junction: How the Charge Extracting Layer Determines the Openâ€Circuit Voltage. Advanced Materials, 2017, 29, 1604493.	21.0	50
26	Ultrafast Optical Mapping of Nonlinear Plasmon Dynamics in Cu_{2â€“x}Se Nanoparticles. Journal of Physical Chemistry Letters, 2013, 4, 3337-3344.	4.6	47
27	Electronâ€“Phonon Couplings Inherent in Polarons Drive Exciton Dynamics in Two-Dimensional Metal-Halide Perovskites. Chemistry of Materials, 2019, 31, 7085-7091.	6.7	40
28	Ultrafast Energy Transfer in Ultrathin Organic Donor/Acceptor Blend. Scientific Reports, 2013, 3, 2073.	3.3	39
29	(4NPEA)₂PbI₄ (4NPEA = 4-Nitrophenylethylammonium): Structural, NMR, and Optical Properties of a 3 Ã— 3 Corrugated 2D Hybrid Perovskite. Journal of the American Chemical Society, 2019, 141, 4521-4525.	13.7	37
30	An Organic â€œDonorâ€Freeâ€•Dye with Enhanced Openâ€Circuit Voltage in Solidâ€State Sensitized Solar Cells. Advanced Energy Materials, 2014, 4, 1400166.	19.5	35
31	Incoherent population mixing contributions to phase-modulation two-dimensional coherent excitation spectra. Journal of Chemical Physics, 2017, 147, 114201.	3.0	34
32	The role of a dark exciton reservoir in the luminescence efficiency of two-dimensional tin iodide perovskites. Journal of Materials Chemistry C, 2020, 8, 10889-10896.	5.5	31
33	Cation exchange synthesis and optoelectronic properties of type II CdTeâ€“Cu2â^'xTe nano-heterostructures. Journal of Materials Chemistry C, 2014, 2, 3189.	5.5	29
34	Structure-controlled optical thermoresponse in Ruddlesden-Popper layered perovskites. APL Materials, 2018, 6, .	5.1	26
35	Role of Hot Singlet Excited States in Charge Generation at the Black Dye/TiO₂ Interface. ACS Applied Materials & Interfaces, 2013, 5, 4334-4339.	8.0	25
36	Enhanced screening and spectral diversity in many-body elastic scattering of excitons in two-dimensional hybrid metal-halide perovskites. Physical Review Research, 2019, 1, .	3.6	24

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37	Ultrafast dissociation of triplets in pentacene induced by an electric field. Physical Review B, 2014, 90, .	3.2	20
38	Optical Gain of Lead Halide Perovskites Measured via the Variable Stripe Length Method: What We Can Learn and How to Avoid Pitfalls. Advanced Optical Materials, 2021, 9, 2001773.	7.3	20
39	A dual-phase architecture for efficient amplified spontaneous emission in lead iodide perovskites. Journal of Materials Chemistry C, 2016, 4, 4630-4633.	5.5	15
40	Probing dynamical symmetry breaking using quantum-entangled photons. Quantum Science and Technology, 2018, 3, 015003.	5.8	14
41	Research Update: Luminescence in lead halide perovskites. APL Materials, 2016, 4, .	5.1	12
42	Photon entanglement entropy as a probe of many-body correlations and fluctuations. Journal of Chemical Physics, 2019, 150, 184106.	3.0	12
43	Stochastic scattering theory for excitation-induced dephasing: Time-dependent nonlinear coherent exciton lineshapes. Journal of Chemical Physics, 2020, 153, 164706.	3.0	12
44	The Photophysics of Polythiophene Nanoparticles for Biological Applications. ChemBioChem, 2019, 20, 532-536.	2.6	11
45	Charge Generation at Polymer/Metal Oxide Interface: from Molecular Scale Dynamics to Mesoscopic Effects. Advanced Functional Materials, 2014, 24, 3094-3099.	14.9	10
46	Frenkel biexcitons in hybrid HJ photophysical aggregates. Science Advances, 2021, 7, eabi5197.	10.3	10
47	Probing exciton/exciton interactions with entangled photons: Theory. Journal of Chemical Physics, 2020, 152, 071101.	3.0	9
48	Stochastic scattering theory for excitation-induced dephasing: Comparison to the Andersonâ€“Kubo lineshape. Journal of Chemical Physics, 2020, 153, 154115.	3.0	7
49	Homogeneous Optical Line Widths in Hybrid Ruddlesdenâ€“Popper Metal Halides Can Only Be Measured Using Nonlinear Spectroscopy. Journal of Physical Chemistry C, 2022, 126, 5378-5387.	3.1	7
50	Peculiar anharmonicity of Ruddlesden Popper metal halides: temperature-dependent phonon dephasing. Materials Horizons, 2022, 9, 492-499.	12.2	5
51	Light-triggered conducting properties of a random carbon nanotubes network in a photochromic polymer matrix. Proceedings of SPIE, 2011, , .	0.8	2
52	The path toward quantum advantage in optical spectroscopy of materials. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	2
53	Carbon nanotubes-photochromic polymer blends: Light-triggered conductance switching device. , 2011, , .		0
54	Phonon coherences reveal the polaronic character of excitons in two-dimensional lead halide perovskites. , 0, , .		0