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	Peculiar anharmonicity of Ruddlesden Popper metal halides: temperature-dependent phonon dephasing. Materials Horizons, 2022, 9, 492-499.	12.2	5
2	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
3	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
4	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
5	Frenkel biexcitons in hybrid HJ photophysical aggregates. Science Advances, 2021, 7, eabi5197.	10.3	10
6	Stochastic scattering theory for excitation-induced dephasing: Time-dependent nonlinear coherent exciton lineshapes. Journal of Chemical Physics, 2020, 153, 164706.	3.0	12
7	Stochastic scattering theory for excitation-induced dephasing: Comparison to the Andersonâ€“Kubo lineshape. Journal of Chemical Physics, 2020, 153, 154115.	3.0	7
8	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
9	Exciton Polarons in Two-Dimensional Hybrid Metal-Halide Perovskites. Journal of Physical Chemistry Letters, 2020, 11, 3173-3184.	4.6	100
10	Probing exciton/exciton interactions with entangled photons: Theory. Journal of Chemical Physics, 2020, 152, 071101.	3.0	9
11	The Photophysics of Polythiophene Nanoparticles for Biological Applications. ChemBioChem, 2019, 20, 532-536.	2.6	11
12	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
13	Photon entanglement entropy as a probe of many-body correlations and fluctuations. Journal of Chemical Physics, 2019, 150, 184106.	3.0	12
14	(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
15	Phonon coherences reveal the polaronic character of excitons in two-dimensional lead halide perovskites. Nature Materials, 2019, 18, 349-356.	27.5	257
16	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
17	Structure-controlled optical thermoresponse in Ruddlesden-Popper layered perovskites. APL Materials, 2018, 6, .	5.1	26
18	Probing femtosecond lattice displacement upon photo-carrier generation in lead halide perovskite. Nature Communications, 2018, 9, 1971.	12.8	113

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19	Probing dynamical symmetry breaking using quantum-entangled photons. Quantum Science and Technology, 2018, 3, 015003.	5.8	14
20	Stable biexcitons in two-dimensional metal-halide perovskites with strong dynamic lattice disorder. Physical Review Materials, 2018, 2, .	2.4	89
21	Exciton-polaron spectral structures in two-dimensional hybrid lead-halide perovskites. Physical Review Materials, 2018, 2, .	2.4	116
22	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
23	Defect-Assisted Photoinduced Halide Segregation in Mixed-Halide Perovskite Thin Films. ACS Energy Letters, 2017, 2, 1416-1424.	17.4	437
24	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
25	Incoherent population mixing contributions to phase-modulation two-dimensional coherent excitation spectra. Journal of Chemical Physics, 2017, 147, 114201.	3.0	34
26	Integrated perovskite lasers on a silicon nitride waveguide platform by cost-effective high throughput fabrication. Optics Express, 2017, 25, 13199.	3.4	55
27	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
28	Research Update: Luminescence in lead halide perovskites. APL Materials, 2016, 4, .	5.1	12
29	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
30	Photoinduced Emissive Trap States in Lead Halide Perovskite Semiconductors. ACS Energy Letters, 2016, 1, 726-730.	17.4	137
31	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
32	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
33	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
34	Photophysics of Hybrid Lead Halide Perovskites: The Role of Microstructure. Accounts of Chemical Research, 2016, 49, 536-544.	15.6	107
35	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
36	17.6% stabilized efficiency in low-temperature processed planar perovskite solar cells. Energy and Environmental Science, 2015, 8, 2365-2370.	30.8	300

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37	Highly efficient planar perovskite solar cells through band alignment engineering. Energy and Environmental Science, 2015, 8, 2928-2934.	30.8	1,097
38	Role of microstructure in the electronâ€“hole interaction of hybrid lead halide perovskites. Nature Photonics, 2015, 9, 695-701.	31.4	226
39	CH₃NH₃PbI₃ perovskite single crystals: surface photophysics and their interaction with the environment. Chemical Science, 2015, 6, 7305-7310.	7.4	192
40	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
41	Ultrafast dissociation of triplets in pentacene induced by an electric field. Physical Review B, 2014, 90, .	3.2	20
42	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
43	Excitons versus free charges in organo-lead tri-halide perovskites. Nature Communications, 2014, 5, 3586.	12.8	1,443
44	Charge Generation at Polymer/Metal Oxide Interface: from Molecular Scale Dynamics to Mesoscopic Effects. Advanced Functional Materials, 2014, 24, 3094-3099.	14.9	10
45	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
46	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
47	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
48	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
49	Plasmonics in heavily-doped semiconductor nanocrystals. European Physical Journal B, 2013, 86, 1.	1.5	76
50	Ultrafast Energy Transfer in Ultrathin Organic Donor/Acceptor Blend. Scientific Reports, 2013, 3, 2073.	3.3	39
51	Carbon nanotubes-photochromic polymer blends: Light-triggered conductance switching device. , 2011, , .		0
52	Plasmon Dynamics in Colloidal Cu_{2â€“x}Se Nanocrystals. Nano Letters, 2011, 11, 4711-4717.	9.1	158
53	Light-triggered conducting properties of a random carbon nanotubes network in a photochromic polymer matrix. Proceedings of SPIE, 2011, , .	0.8	2
54	Phonon coherences reveal the polaronic character of excitons in two-dimensional lead halide perovskites. , 0, , .		0