Mauricio E Calvo

List of Publications by Year
in descending order

118 papers	4,741 citations	101384 36 h-index	106150 65 g-index
118 all docs	118 docs citations	118 times ranked	6664 citing authors

#	Article	IF	Citations
1	Highly Efficient Perovskite Solar Cells with Tunable Structural Color. Nano Letters, 2015, 15, 1698-1702.	4.5	289
2	Porous Oneâ€Dimensional Photonic Crystals Improve the Powerâ€Conversion Efficiency of Dyeâ€Sensitized Solar Cells. Advanced Materials, 2009, 21, 764-770.	11.1	249
3	Unbroken Perovskite: Interplay of Morphology, Electroâ€optical Properties, and Ionic Movement. Advanced Materials, 2016, 28, 5031-5037.	11.1	242
4	Environmental Effects on the Photophysics of Organicâ€“Inorganic Halide Perovskites. Journal of Physical Chemistry Letters, 2015, 6, 2200-2205.	2.1	205
5	Nanoparticle-Based One-Dimensional Photonic Crystals. Langmuir, 2008, 24, 4430-4434.	1.6	190
6	ABX3 Perovskites for Tandem Solar Cells. Joule, 2017, 1, 769-793.	11.7	176
7	Spectral Response of Opal-Based Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2008, 112, 13-17.	1.5	137
8	Mesoporous Anatase TiO2Films:â€‰ Use of Ti K XANES for the Quantification of the Nanocrystalline Character and Substrate Effects in the Photocatalysis Behavior. Journal of Physical Chemistry C, 2007, 111, 10886-10893.	1.5	130
9	Porous one dimensional photonic crystals: novel multifunctional materials for environmental and energy applications. Energy and Environmental Science, 2011, 4, 4800.	15.6	114
10	Novel approaches to flexible visible transparent hybrid films for ultraviolet protection. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 945-956.	2.4	111
11	Sorption Properties of Mesoporous Multilayer Thin Films. Journal of Physical Chemistry C, 2008, 112, 3157-3163.	1.5	110
12	Origin of Light-Induced Photophysical Effects in Organic Metal Halide Perovskites in the Presence of Oxygen. Journal of Physical Chemistry Letters, 2018, 9, 3891-3896.	2.1	109
13	Absorption Enhancement in Organicâ€“Inorganic Halide Perovskite Films with Embedded Plasmonic Gold Nanoparticles. Journal of Physical Chemistry C, 2015, 119, 18635-18640.	1.5	105
14	Optical analysis of CH₃NH₃Sn_xPb_{1â^'x}I₃ absorbers: a roadmap for perovskite-on-perovskite tandem solar cells. Journal of Materials Chemistry A, 2016, 4, 11214-11221.	5.2	101
15	High voltage vacuum-deposited CH₃NH₃PbI₃â€“CH₃NH₃PbI₃ tandem solar cells. Energy and Environmental Science, 2018, 11, 3292-3297.	15.6	98
16	Microwave-Assisted Synthesis of Biocompatible Europium-Doped Calcium Hydroxyapatite and Fluoroapatite Luminescent Nanospindles Functionalized with Poly(acrylic acid). Langmuir, 2013, 29, 1985-1994.	1.6	94
17	Photoconducting Bragg Mirrors based on TiO₂ Nanoparticle Multilayers. Advanced Functional Materials, 2008, 18, 2708-2715.	7.8	81
18	Selective UV Reflecting Mirrors Based on Nanoparticle Multilayers. Advanced Functional Materials, 2013, 23, 2805-2811.	7.8	76

#	Article	IF	Citations
19	Efficient Transparent Thin Dye Solar Cells Based on Highly Porous 1D Photonic Crystals. Advanced Functional Materials, 2012, 22, 1303-1310.	7.8	74
20	Theoretical Analysis of the Performance of One-Dimensional Photonic Crystal-Based Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2010, 114, 3681-3687.	1.5	73
21	Experimental Demonstration of the Mechanism of Light Harvesting Enhancement in Photonic-Crystal-Based Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2009, 113, 1150-1154.	1.5	65
22	Strong Quantum Confinement and Fast Photoemission Activation in CH₃NH₃PbI₃ Perovskite Nanocrystals Grown within Periodically Mesostructured Films. Advanced Optical Materials, 2017, 5, 1601087.	3.6	65
23	TiO2â€“SiO2 one-dimensional photonic crystals of controlled porosity by glancing angle physical vapour deposition. Journal of Materials Chemistry, 2010, 20, 6408.	6.7	64
24	Effect of nanostructured electrode architecture and semiconductor deposition strategy on the photovoltaic performance of quantum dot sensitized solar cells. Electrochimica Acta, 2012, 75, 139-147.	2.6	62
25	Molding with nanoparticle-based one-dimensional photonic crystals: a route to flexible and transferable Bragg mirrors of high dielectric contrast. Journal of Materials Chemistry, 2009, 19, 3144.	6.7	61
26	Photooxidation of Organic Mixtures on Biased TiO2Films. Environmental Science & Technology, 2001, 35, 4132-4138.	4.6	60
27	Optical Description of Mesostructured Organicâ€“Inorganic Halide Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2015, 6, 48-53.	2.1	59
28	Electron injection and scaffold effects in perovskite solar cells. Journal of Materials Chemistry C, 2017, 5, 634-644.	2.7	58
29	Collective osmotic shock in ordered materials. Nature Materials, 2012, 11, 53-57.	13.3	56
30	Introducing structural colour in DSCs by using photonic crystals: interplay between conversion efficiency and optical properties. Energy and Environmental Science, 2012, 5, 8238.	15.6	50
31	Flexible, Adhesive, and Biocompatible Bragg Mirrors Based on Polydimethylsiloxane Infiltrated Nanoparticle Multilayers. Chemistry of Materials, 2010, 22, 3909-3915.	3.2	47
32	A panchromatic modification of the light absorption spectra of metalâ€“organic frameworks. Chemical Communications, 2016, 52, 6665-6668.	2.2	44
33	Hybrid non-silica mesoporous thin films. New Journal of Chemistry, 2005, 29, 59-63.	1.4	42
34	Angular response of photonic crystal based dye sensitized solar cells. Energy and Environmental Science, 2013, 6, 1260.	15.6	40
35	Three-Dimensional Optical Tomography and Correlated Elemental Analysis of Hybrid Perovskite Microstructures: An Insight into Defect-Related Lattice Distortion and Photoinduced Ion Migration. Journal of Physical Chemistry Letters, 2016, 7, 5227-5234.	2.1	37
36	Mesostructured Thin Films as Responsive Optical Coatings of Photonic Crystals. Small, 2009, 5, 2309-2315.	5.2	36

#	Article	IF	Citations
37	Versatility and multifunctionality of highly reflecting Bragg mirrors based on nanoparticle multilayers. Journal of Materials Chemistry, 2010, 20, 8240.	6.7	36
38	Control over the Structural and Optical Features of Nanoparticle-Based One-Dimensional Photonic Crystals. Langmuir, 2009, 25, 2443-2448.	1.6	35
39	Materials chemistry approaches to the control of the optical features of perovskite solar cells. Journal of Materials Chemistry A, 2017, 5, 20561-20578.	5.2	35
40	Interplay of Resonant Cavity Modes with Localized Surface Plasmons: Optical Absorption Properties of Bragg Stacks Integrating Gold Nanoparticles. Advanced Materials, 2011, 23, 2108-2112.	11.1	34
41	Solution processed high refractive index contrast distributed Bragg reflectors. Journal of Materials Chemistry C, 2016, 4, 4532-4537.	2.7	33
42	Efficient bifacial dye-sensitized solar cells through disorder by design. Journal of Materials Chemistry A, 2016, 4, 1953-1961.	5.2	33
43	Porous Supramolecularly Templated Optical Resonators Built in 1D Photonic Crystals. Advanced Functional Materials, 2011, 21, 2534-2540.	7.8	32
44	Mesoporous Matrices as Hosts for Metal Halide Perovskite Nanocrystals. Advanced Optical Materials, 2020, 8, 1901868.	3.6	30
45	Integration of Photonic Crystals into Flexible Dye Solar Cells: A Route toward Bendable and Adaptable Optoelectronic Devices Displaying Structural Color and Enhanced Efficiency. Advanced Optical Materials, 2016, 4, 464-471.	3.6	29
46	Disentangling Electronâ€"Phonon Coupling and Thermal Expansion Effects in the Band Gap Renormalization of Perovskite Nanocrystals. Journal of Physical Chemistry Letters, 2021, 12, 569-575.	2.1	29
47	Fluorescent Humidity Sensors Based on Photonic Resonators. Advanced Optical Materials, 2017, 5, 1700663.	3.6	28
48	Localized surface plasmon effects on the photophysics of perovskite thin films embedding metal nanoparticles. Journal of Materials Chemistry C, 2020, 8, 916-921.	2.7	28
49	Internal quantum efficiency and time signals from intensity-modulated photocurrent spectra of perovskite solar cells. Journal of Applied Physics, 2020, 128, .	1.1	25
50	Environmentally responsive nanoparticle-based luminescent optical resonators. Nanoscale, 2010, 2, 936.	2.8	24
51	Photophysical Analysis of the Formation of Organicâ€"Inorganic Trihalide Perovskite Films: Identification and Characterization of Crystal Nucleation and Growth. Journal of Physical Chemistry C, 2016, 120, 3071-3076.	1.5	23
52	Enhanced diffusion through porous nanoparticle optical multilayers. Journal of Materials Chemistry, 2012, 22, 1751-1757.	6.7	22
53	Porous One-Dimensional Photonic Crystal Coatings for Gas Detection. IEEE Sensors Journal, 2010, 10, 1206-1212.	2.4	21
54	Nanolevitation Phenomena in Real Plane-Parallel Systems Due to the Balance between Casimir and Gravity Forces. Journal of Physical Chemistry C, 2015, 119, 5663-5670.	1.5	21

#	Article	IF	Citations
55	Photonic Tuning of the Emission Color of Nanophosphor Films Processed at High Temperature. Advanced Optical Materials, 2017, 5, 1700099.	3.6	21
56	Fully stable numerical calculations for finite one-dimensional structures: Mapping the transfer matrix method. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 134, 9-20.	1.1	20
57	Highly Efficient and Environmentally Stable Flexible Color Converters Based on Confined CH₃NH₃PbBr₃ Nanocrystals. ACS Applied Materials & Interfaces, 2018, 10, 38334-38340.	4.0	20
58	Efficient third harmonic generation from FAPbBr₃ perovskite nanocrystals. Journal of Materials Chemistry C, 2020, 8, 15990-15995.	2.7	20
59	Local Rearrangement of the Iodide Defect Structure Determines the Phase Segregation Effect in Mixed-Halide Perovskites. Journal of Physical Chemistry Letters, 2020, 11, 4911-4916.	2.1	20
60	Persistent luminescent nanoparticles: Challenges and opportunities for a shimmering future. Journal of Applied Physics, 2021, 130, .	1.1	20
61	Maximized performance of dye solar cells on plastic: a combined theoretical and experimental optimization approach. Energy and Environmental Science, 2016, 9, 2061-2071.	15.6	19
62	Flexible and Adaptable Lightâ€Emitting Coatings for Arbitrary Metal Surfaces based on Optical Tamm Mode Coupling. Advanced Optical Materials, 2018, 6, 1700560.	3.6	19
63	Absorption enhancement in methylammonium lead iodide perovskite solar cells with embedded arrays of dielectric particles. Optics Express, 2018, 26, A865.	1.7	19
64	Resonant Photocurrent Generation in Dye-Sensitized Periodically Nanostructured Photoconductors by Optical Field Confinement Effects. Journal of the American Chemical Society, 2013, 135, 7803-7806.	6.6	18
65	Panchromatic porous specular back reflectors for efficient transparent dye solar cells. Physical Chemistry Chemical Physics, 2014, 16, 663-668.	1.3	17
66	Fine Tuning the Emission Properties of Nanoemitters in Multilayered Structures by Deterministic Control of their Local Photonic Environment. Small, 2015, 11, 2727-2732.	5.2	17
67	Absorption and Emission of Light in Optoelectronic Nanomaterials: The Role of the Local Optical Environment. Journal of Physical Chemistry Letters, 2018, 9, 2077-2084.	2.1	17
68	Tamm Plasmons Directionally Enhance Rare-Earth Nanophosphor Emission. ACS Photonics, 2019, 6, 634-641.	3.2	17
69	Mechanism of Photoluminescence Intermittency in Organicâ€"Inorganic Perovskite Nanocrystals. ACS Applied Materials & Interfaces, 2019, 11, 6344-6349.	4.0	17
70	Enhanced Directional Light Extraction from Patterned Rareâ€Earth Phosphor Films. Advanced Optical Materials, 2021, 9, 2001611.	3.6	17
71	Adaptable Ultraviolet Reflecting Polymeric Multilayer Coatings of High Refractive Index Contrast. Advanced Optical Materials, 2015, 3, 1633-1639.	3.6	16
72	Flexible Distributed Bragg Reflectors from Nanocolumnar Templates. Advanced Optical Materials, 2015, 3, 171-175.	3.6	16

#	Article	IF	Citations
73	Highly Efficient Transparent Nanophosphor Films for Tunable White-Light-Emitting Layered Coatings. ACS Applied Materials & Interfaces, 2019, 11, 4219-4225.	4.0	16
74	Ligandâ€Free MAPbI₃Quantum Dot Solar Cells Based on Nanostructured Insulating Matrices. Solar Rrl, 2021, 5, 2100204.	3.1	16
75	Design and realization of transparent solar modules based on luminescent solar concentrators integrating nanostructured photonic crystals. Progress in Photovoltaics: Research and Applications, 2015, 23, 1785-1792.	4.4	15
76	Photonic structuring improves the colour purity of rare-earth nanophosphors. Materials Horizons, 2018, 5, 661-667.	6.4	15
77	Spatially Resolved Analysis of Defect Annihilation and Recovery Dynamics in Metal Halide Perovskite Single Crystals. ACS Applied Energy Materials, 2019, 2, 6967-6972.	2.5	15
78	Characterization of Mesoporous Thin Films by Specular Reflectance Porosimetry. Langmuir, 2012, 28, 13777-13782.	1.6	14
79	Integration of Gold Nanoparticles in Optical Resonators. Langmuir, 2012, 28, 9161-9167.	1.6	14
80	Multidirectional Lightâ€Harvesting Enhancement in Dye Solar Cells by Surface Patterning. Advanced Optical Materials, 2014, 2, 879-884.	3.6	14
81	Casimirâ€"Lifshitz Force Based Optical Resonators. Journal of Physical Chemistry Letters, 2019, 10, 5856-5860.	2.1	14
82	Flexible nanophosphor films doped with Mie resonators for enhanced out-coupling of the emission. Journal of Materials Chemistry C, 2019, 7, 267-274.	2.7	14
83	Biocompatible Films with Tailored Spectral Response for Prevention of DNA Damage in Skin Cells. Advanced Healthcare Materials, 2015, 4, 1944-1948.	3.9	13
84	Aperiodic Metalâ€Dielectric Multilayers as Highly Efficient Sunlight Reflectors. Advanced Optical Materials, 2017, 5, 1600833.	3.6	10
85	Highly Versatile Upconverting Oxyfluoride-Based Nanophosphor Films. ACS Applied Materials & Interfaces, 2021, 13, 30051-30060.	4.0	10
86	Enhancement of salicylate photodegradation under bias in binary mixtures. Catalysis Today, 2002, 76, 133-139.	2.2	9
87	Full solution processed mesostructured optical resonators integrating colloidal semiconductor quantum dots. Nanoscale, 2015, 7, 16583-16589.	2.8	9
88	Design and Realization of a Novel Optically Disordered Material: A Demonstration of a Mie Glass. Advanced Optical Materials, 2017, 5, 1700025.	3.6	8
89	Enhanced up-conversion photoluminescence in fluorideâ€"oxyfluoride nanophosphor films by embedding gold nanoparticles. Materials Advances, 2022, 3, 4235-4242.	2.6	8
90	Synergistic strategies for the preparation of highly efficient dye-sensitized solar cells on plastic substrates: combination of chemical and physical sintering. RSC Advances, 2015, 5, 76795-76803.	1.7	7

#	Article	IF	Citations
91	The Complex Interplay of Lead Halide Perovskites with Their Surroundings. Advanced Optical Materials, 2021, 9, 2100133.	3.6	7
92	Gallium Arsenide Infiltration of Nanoporous Multilayers: A Route to Highâ€Dielectricâ€Contrast Oneâ€Dimensional Photonic Crystals. Small, 2010, 6, 1283-1287.	5.2	6
93	Nanoparticle Bragg reflectors: A smart analytical tool for biosensing. Biosensors and Bioelectronics: X, 2019, 1, 100012.	0.9	6
94	Optoelectronic Devices Based on Scaffold Stabilized Blackâ€Phase CsPbI₃Nanocrystals. Advanced Optical Materials, 2022, 10, .	3.6	6
95	The Role of the Atmosphere on the Photophysics of Ligandâ€Free Leadâ€Halide Perovskite Nanocrystals. Advanced Optical Materials, 2021, 9, 2100605.	3.6	5
96	Effect of Spatial Inhomogeneity on Quantum Trapping. Journal of Physical Chemistry Letters, 2022, 13, 4513-4519.	2.1	5
97	Facile Synthesis of Hybrid Organicâ€“Inorganic Perovskite Microcubes of Optical Quality Using Polar Antisolvents. ACS Applied Materials & Interfaces, 2017, 9, 35505-35510.	4.0	4
98	Improving the Bulk Emission Properties of CH₃NH₃PbBr₃ by Modifying the Halide-Related Defect Structure. Journal of Physical Chemistry C, 2018, 122, 27250-27255.	1.5	4
99	Finite Size Effects on Light Propagation throughout Random Media: Relation between Optical Properties and Scattering Event Statistics. Advanced Optical Materials, 2020, 8, 1901196.	3.6	4
100	Angular emission properties of a layer of rare-earth based nanophosphors embedded in one-dimensional photonic crystal coatings. Applied Physics Letters, 2011, 99, 051111.	1.5	3
101	Nanometerâ€Scale Precision Tuning of 3D Photonic Crystals Made Possible Using Polyelectrolytes with Controlled Short Chain Length and Narrow Polydispersity. Advanced Materials Interfaces, 2014, 1, 1300051.	1.9	3
102	Optical Responses of Localized and Extended Modes in a Mesoporous Layer on Plasmonic Array to Isopropanol Vapor. Journal of Physical Chemistry C, 2020, 124, 5772-5779.	1.5	3
103	Monitoring, Modeling, and Optimization of Lead Halide Perovskite Nanocrystal Growth within Porous Matrices. Journal of Physical Chemistry C, 2020, 124, 8041-8046.	1.5	2
104	Mesoporous Hybrid Thin Films: Building Blocks for Complex Materials with Spatial Organization. Materials Research Society Symposia Proceedings, 2007, 1007, 1.	0.1	1
105	Enhanced power conversion efficiency in solar cells coupled to photonic crystals. Proceedings of SPIE, 2007, , .	0.8	1
106	CHAPTER 1. Responsive Bragg Reflectors. RSC Smart Materials, 2013, , 1-20.	0.1	1
107	Optical design of all-perovskite tandem solar cells. , 2017, , .		1
108	Integration of photonic crystals in dye sensitized solar cells. , 2008, , .		0

#	Article	IF	Citations
109	Nanoparticle Based Multilayers as Multifunctional Optical Coatings. Materials Research Society Symposia Proceedings, 2009, 1188, 15.	0.1	0
110	Flexible and transferable one-dimensional photonic crystals based on polymer infiltrated nanoparticle multilayers. Proceedings of SPIE, 2010, , .	0.8	0
111	Mesostructured thin films as photonic crystal building blocks for sensing applications. Proceedings of SPIE, 2010, , .	0.8	0
112	All-nanoparticle-based optical resonators for detection of gases and liquids. , 2010, , .		0
113	Skin Protection: Biocompatible Films with Tailored Spectral Response for Prevention of DNA Damage in Skin Cells (Adv. Healthcare Mater. 13/2015). Advanced Healthcare Materials, 2015, 4, 2048-2048.	3.9	0
114	Full solution process approach for deterministic control of light emission at the nanoscale (Conference Presentation). , 2016, , .		0
115	Photonic Tuning of Nanophosphor Transparent thin films. , 2017, , .		0
116	Color Tuning of GdVO4:Dy3+ Nanophosphor via photonic multilayers. , 2016, , .		0
117	Nanophotonics Tunes Rare-Earth Nanophosphor Emission. , 2019, , .		0
118	Transparent nanophosphor films for efficient white-light generation. , 2019, , .		0