Andres Osvet

List of Publications by Year
in descending order

113 papers	5,433 citations	94433 37 h-index	85541 71 g-index
117 all docs	117 docs citations	117 times ranked	8796 citing authors

#	ARTICLE	IF	CITATIONS
1	Rare-Earth Ion-Based Photon Up-Conversion for Transmission-Loss Reduction in Solar Cells. , 2022, , 241-267.		1
2	Intercalating-Organic-Cation-Induced Stability Bowing in Quasi-2D Metal-Halide Perovskites. ACS Energy Letters, 2022, 7, 70-77.	17.4	26
3	Overcoming Temperatureâ€Induced Degradation of Silver Nanowire Electrodes by an Ag@SnO_x Coreâ€Shell Approach. Advanced Electronic Materials, 2022, 8, .	5.1	7
4	A bilayer conducting polymer structure for planar perovskite solar cells with over 1,400â€‰hours operational stability at elevated temperatures. Nature Energy, 2022, 7, 144-152.	39.5	123
5	Highly Stable Lasing from Solutionâ€Epitaxially Grown Formamidiniumâ€Leadâ€Bromide Microâ€Resonators. Advanced Optical Materials, 2022, 10, .	7.3	3
6	Unraveling the Chargeâ€Carrier Dynamics from the Femtosecond to the Microsecond Time Scale in Doubleâ€Cable Polymerâ€Based Singleâ€Component Organic Solar Cells. Advanced Energy Materials, 2022, 12, 2103406.	19.5	15
7	Surface versus Bulk Currents and Ionic Space-Charge Effects in CsPbBr₃ Single Crystals. Journal of Physical Chemistry Letters, 2022, 13, 3824-3830.	4.6	11
8	An Innovative Anode Interface Combination for Perovskite Solar Cells with Improved Efficiency, Stability, and Reproducibility. Solar Rrl, 2022, 6, .	5.8	3
9	Micropowder Ca2YMgScSi3O12:Ce Silicate Garnet as an Efficient Light Converter for White LEDs. Materials, 2022, 15, 3942.	2.9	6
10	â€œGreenâ€• synthesis of highly luminescent lead-free Cs₂Ag_{<i>x</i>}Na_{1â^'<i>x</i>}Bi_{<i>y</i>}In_{1â^'<i>y</i>}Cl₆ perovskites. Journal of Materials Chemistry C, 2022, 10, 9938-9944.	5.5	13
11	Discovery of temperature-induced stability reversal in perovskites using high-throughput robotic learning. Nature Communications, 2021, 12, 2191.	12.8	77
12	Building process design rules for microstructure control in wide-bandgap mixed halide perovskite solar cells by a high-throughput approach. Applied Physics Letters, 2021, 118, .	3.3	8
13	High-Throughput Time-Resolved Photoluminescence Study of Composition- and Size-Selected Aqueous Agâ€"Inâ€"S Quantum Dots. Journal of Physical Chemistry C, 2021, 125, 12185-12197.	3.1	13
14	Crystallization and Investigation of the Structural and Optical Properties of Ce3+-Doped Y3â^'xCaxAl5â^'ySiyO12 Single Crystalline Film Phosphors. Crystals, 2021, 11, 788.	2.2	5
15	Highâ€Throughput Robotic Synthesis and Photoluminescence Characterization of Aqueous Multinary Copperâ€"Silver Indium Chalcogenide Quantum Dots. Particle and Particle Systems Characterization, 2021, 38, 2100169.	2.3	12
16	Spontaneous alloying of ultrasmall non-stoichiometric Agâ€"Inâ€"S and Cuâ€"Inâ€"S quantum dots in aqueous colloidal solutions. RSC Advances, 2021, 11, 21145-21152.	3.6	5
17	Characterization of Aerosol Deposited Cesium Lead Tribromide Perovskite Films on Interdigited ITO Electrodes. Advanced Electronic Materials, 2021, 7, 2001165.	5.1	5
18	Perspectives of solution epitaxially grown defect tolerant lead-halide-perovskites and lead-chalcogenides. Applied Physics Letters, 2021, 119, .	3.3	2

#	Article	IF	Citations
19	Visualizing and Suppressing Nonradiative Losses in High Open-Circuit Voltage n-i-p-Type CsPbI₃ Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 271-279.	17.4	39
20	Effect of water vapor content during the solid state synthesis of manganese-doped magnesium fluoro-germanate phosphor on its chemistry and photoluminescent properties. Optical Materials, 2020, 99, 109572.	3.6	2
21	Robot-Based High-Throughput Screening of Antisolvents for Lead Halide Perovskites. Joule, 2020, 4, 1806-1822.	24.0	65
22	Epitaxial Metal Halide Perovskites by Inkjetâ€Printing on Various Substrates. Advanced Functional Materials, 2020, 30, 2004612.	14.9	21
23	The role of exciton lifetime for charge generation in organic solar cells at negligible energy-level offsets. Nature Energy, 2020, 5, 711-719.	39.5	214
24	Strain-activated light-induced halide segregation in mixed-halide perovskite solids. Nature Communications, 2020, 11, 6328.	12.8	86
25	A General Guideline for Vertically Resolved Imaging of Manufacturing Defects in Organic Tandem Solar Cells. Advanced Materials Interfaces, 2020, 7, 2000336.	3.7	2
26	Micro-powder Ca3Sc2Si3O12:Ce silicate garnets as efficient light converters for WLEDs. Optical Materials, 2020, 107, 109978.	3.6	12
27	Characterization of the phosphor (Sr,Ca)SiAlN3: Eu2+ for temperature sensing. Journal of Luminescence, 2020, 226, 117487.	3.1	10
28	A Crossâ€Linked Interconnecting Layer Enabling Reliable and Reproducible Solutionâ€Processing of Organic Tandem Solar Cells. Advanced Energy Materials, 2020, 10, 1903800.	19.5	21
29	Luminescent Properties of Nanopowder and Singleâ€Crystalline Films of TbAG:Ce Garnet. Physica Status Solidi (B): Basic Research, 2020, 257, 1900495.	1.5	4
30	Sensitive Direct Converting Xâ€Ray Detectors Utilizing Crystalline CsPbBr₃ Perovskite Films Fabricated via Scalable Melt Processing. Advanced Materials Interfaces, 2020, 7, 1901575.	3.7	83
31	Novel two-dimensional phosphor thermography by decay-time method using a low frame-rate CMOS camera. Optics and Lasers in Engineering, 2020, 128, 106010.	3.8	4
32	Looking beyond the Surface: The Band Gap of Bulk Methylammonium Lead Iodide. Nano Letters, 2020, 20, 3090-3097.	9.1	16
33	Thermal-Driven Phase Separation of Double-Cable Polymers Enables Efficient Single-Component Organic Solar Cells. Joule, 2019, 3, 1765-1781.	24.0	124
34	Revealing Hidden UV Instabilities in Organic Solar Cells by Correlating Device and Material Stability. Advanced Energy Materials, 2019, 9, 1902124.	19.5	74
35	(Gd,Lu)AlO₃:Dy³⁺ and (Gd,Lu)₃Al₅O₁₂:Dy³⁺ as high-temperature thermographic phosphors. Measurement Science and Technology, 2019, 30, 034001.	2.6	12
36	Luminescence properties of Yb3+-Tb3+ co-doped amorphous silicon oxycarbide thin films. Optical Materials, 2019, 92, 16-21.	3.6	2

#	Article	IF	Citations
37	Discriminating bulk versus interface shunts in organic solar cells by advanced imaging techniques. Progress in Photovoltaics: Research and Applications, 2019, 27, 460-468.	8.1	10
38	Assembling Mesoscaleâ€Structured Organic Interfaces in Perovskite Photovoltaics. Advanced Materials, 2019, 31, e1806516.	21.0	16
39	Local Observation of Phase Segregation in Mixed-Halide Perovskite. Nano Letters, 2018, 18, 2172-2178.	9.1	186
40	Synthesis and photoluminescent properties of the Dy3+ doped YSO as a high-temperature thermographic phosphor. Journal of Luminescence, 2018, 197, 23-30.	3.1	34
41	Assessing Temperature Dependence of Drift Mobility in Methylammonium Lead Iodide Perovskite Single Crystals. Journal of Physical Chemistry C, 2018, 122, 5935-5939.	3.1	47
42	Overcoming Microstructural Limitations in Water Processed Organic Solar Cells by Engineering Customized Nanoparticulate Inks. Advanced Energy Materials, 2018, 8, 1702857.	19.5	48
43	Optimization of synthesis and compositional parameters of magnesium germanate and fluoro-germanate thermographic phosphors. Journal of Alloys and Compounds, 2018, 734, 29-35.	5.5	10
44	Exploring the Stability of Novel Wide Bandgap Perovskites by a Robot Based High Throughput Approach. Advanced Energy Materials, 2018, 8, 1701543.	19.5	75
45	Time-Resolved Analysis of Dielectric Mirrors for Vapor Sensing. ACS Applied Materials & Interfaces, 2018, 10, 36398-36406.	8.0	21
46	Improved charge carrier dynamics in polymer/perovskite nanocrystal based hybrid ternary solar cells. Physical Chemistry Chemical Physics, 2018, 20, 23674-23683.	2.8	13
47	Structural fluctuations cause spin-split states in tetragonal (CH ₃ NH ₃)PbI ₃ as evidenced by the circular photogalvanic effect. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9509-9514.	7.1	106
48	New silicate based thermographic phosphors Ca3Sc2Si3O12:Dy, Ca3Sc2Si3O12:Dy,Ce and their photoluminescence properties. Journal of Luminescence, 2018, 202, 13-19.	3.1	16
49	Single molecular precursor ink for AgBiS₂ thin films: synthesis and characterization. Journal of Materials Chemistry C, 2018, 6, 7642-7651.	5.5	20
50	Intrinsically Activated SrTiO₃: Photocatalytic H₂ Evolution from Neutral Aqueous Methanol Solution in the Absence of Any Noble Metal Cocatalyst. ACS Applied Materials & Interfaces, 2018, 10, 29532-29542.	8.0	46
51	Suppression of Thermally Induced Fullerene Aggregation in Polyfullerene-Based Multiacceptor Organic Solar Cells. ACS Applied Materials & Interfaces, 2017, 9, 10971-10982.	8.0	26
52	Temperature-dependent optical spectra of single-crystal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mo>(</mml:mo><mml:mrow><mml:msub><mml:mi>Cu</mml:mi><mml:m cleaved in ultrahigh vacuum. Physical Review B, 2017, 95, .	3.2	40
53	Noble metal free photocatalytic H2 generation on black TiO2: On the influence of crystal facets vs. crystal damage. Applied Physics Letters, 2017, 110, .	3.3	16
54	High-temperature thermographic phosphor mixture YAP/YAG:Dy3+ and its photoluminescence properties. Journal of Luminescence, 2017, 188, 582-588.	3.1	31

#	Article	IF	Citations
55	High-performance direct conversion X-ray detectors based on sintered hybrid lead triiodide perovskite wafers. Nature Photonics, 2017, 11, 436-440.	31.4	442
56	Brightly Luminescent and Color-Tunable Formamidinium Lead Halide Perovskite FAPbX₃ (X) Tj ETQq0 0 0 rgBT /Overlock 10	9.1	356
57	Suppression of Hysteresis Effects in Organohalide Perovskite Solar Cells. Advanced Materials Interfaces, 2017, 4, 1700007.	3.7	57
58	Ligand-assisted thickness tailoring of highly luminescent colloidal CH₃NH₃PbX₃ (X = Br and I) perovskite nanoplatelets. Chemical Communications, 2017, 53, 244-247.	4.1	99
59	Understanding the correlation and balance between the miscibility and optoelectronic properties of polymerâ€“fullerene solar cells. Journal of Materials Chemistry A, 2017, 5, 17570-17579.	10.3	35
60	Morphology-Controlled Organic Solar Cells Improved by a Nanohybrid System of Single Wall Carbon Nanotubes Sensitized by PbS Core/Perovskite Epitaxial Ligand Shell Quantum Dots. Solar Rrl, 2017, 1, 1700043.	5.8	7
61	Nobleâ€Metalâ€Free Photocatalytic Hydrogen Evolution Activity: The Impact of Ball Milling Anatase Nanopowders with TiH₂. Advanced Materials, 2017, 29, 1604747.	21.0	59
62	Determination of the complex refractive index of powder phosphors. Optical Materials Express, 2017, 7, 2943.	3.0	8
63	Overcoming the Interface Losses in Planar Heterojunction Perovskiteâ€Based Solar Cells. Advanced Materials, 2016, 28, 5112-5120.	21.0	188
64	Extending the environmental lifetime of unpackaged perovskite solar cells through interfacial design. Journal of Materials Chemistry A, 2016, 4, 11604-11610.	10.3	49
65	Exploring the Limiting Openâ€Circuit Voltage and the Voltage Loss Mechanism in Planar CH₃NH₃PbBr₃ Perovskite Solar Cells. Advanced Energy Materials, 2016, 6, 1600132.	19.5	71
66	Computational optimization and solution-processing of thick and efficient luminescent down-shifting layers for photovoltaics. Proceedings of SPIE, 2016, , .	0.8	2
67	Nanostructured organosilicon luminophores in highly efficient luminescent down-shifting layers for thin film photovoltaics. Solar Energy Materials and Solar Cells, 2016, 155, 1-8.	6.2	39
68	Effective Ligand Engineering of the Cu₂ZnSnS₄ Nanocrystal Surface for Increasing Hole Transport Efficiency in Perovskite Solar Cells. Advanced Functional Materials, 2016, 26, 8300-8306.	14.9	72
69	Photoinduced degradation of methylammonium lead triiodide perovskite semiconductors. Journal of Materials Chemistry A, 2016, 4, 15896-15903.	10.3	119
70	Increased thermal stabilization of polymer photovoltaic cells with oligomeric PCBM. Journal of Materials Chemistry C, 2016, 4, 8121-8129.	5.5	18
71	Giant Rashba Splitting in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>CH</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi>NH</mml:mi><mml:m Perovskite. Physical Review Letters, 2016, 117, 126401.	7.8	269
72	Controlling additive behavior to reveal an alternative morphology formation mechanism in polymerâ€‰:â€‰fullerene bulk-heterojunctions. Journal of Materials Chemistry A, 2016, 4, 16136-16147.	10.3	22

#	Article	IF	Citations
73	Deciphering the Role of Impurities in Methylammonium Iodide and Their Impact on the Performance of Perovskite Solar Cells. Advanced Materials Interfaces, 2016, 3, 1600593.	3.7	31
74	Photoluminescence properties of thermographic phosphors YAG:Dy and YAG:Dy, Er doped with boron and nitrogen. Applied Physics B: Lasers and Optics, 2016, 122, 1.	2.2	19
75	Timeâ€Dependent Morphology Evolution of Solutionâ€Processed Small Molecule Solar Cells during Solvent Vapor Annealing. Advanced Energy Materials, 2016, 6, 1502579.	19.5	96
76	Optimization of Solutionâ€Processed Luminescent Downâ€Shifting Layers for Photovoltaics by Customizing Organic Dye Based Thick Films. Energy Technology, 2016, 4, 385-392.	3.8	16
77	Semitransparent Organic Light Emitting Diodes with Bidirectionally Controlled Emission. ACS Photonics, 2016, 3, 1233-1239.	6.6	6
78	Real-time evaluation of thin film drying kinetics using an advanced, multi-probe optical setup. Journal of Materials Chemistry C, 2016, 4, 2178-2186.	5.5	29
79	Organic Solar Cells: Water Ingress in Encapsulated Inverted Organic Solar Cells: Correlating Infrared Imaging and Photovoltaic Performance (Adv. Energy Mater. 20/2015). Advanced Energy Materials, 2015, 5, n/a-n/a.	19.5	2
80	Printed Smart Photovoltaic Window Integrated with an Energyâ€Saving Thermochromic Layer. Advanced Optical Materials, 2015, 3, 1524-1529.	7.3	43
81	Inverted, Environmentally Stable Perovskite Solar Cell with a Novel Lowâ€Cost and Waterâ€Free PEDOT Holeâ€Extraction Layer. Advanced Energy Materials, 2015, 5, 1500543.	19.5	81
82	Water Ingress in Encapsulated Inverted Organic Solar Cells: Correlating Infrared Imaging and Photovoltaic Performance. Advanced Energy Materials, 2015, 5, 1501065.	19.5	60
83	A New Crystal Phase Molybdate Yb₂Mo₄O₁₅: The Synthesis and Upconversion Properties. Particle and Particle Systems Characterization, 2015, 32, 340-346.	2.3	11
84	Sub-bandgap photon harvesting for organic solar cells via integrating up-conversion nanophosphors. Organic Electronics, 2015, 19, 113-119.	2.6	13
85	â€œBlackâ€•TiO₂ Nanotubes Formed by High-Energy Proton Implantation Show Noble-Metal-<i>co</i>-Catalyst Free Photocatalytic H₂-Evolution. Nano Letters, 2015, 15, 6815-6820.	9.1	174
86	Hydrogenated Anatase: Strong Photocatalytic Dihydrogen Evolution without the Use of a Coâ€Catalyst. Angewandte Chemie - International Edition, 2014, 53, 14201-14205.	13.8	87
87	Luminescent down-shifting layers with Eu²⁺and Eu³⁺doped strontium compound particles for photovoltaics. Proceedings of SPIE, 2014, , .	0.8	2
88	Effective Ligand Passivation of Cu₂O Nanoparticles through Solid-State Treatment with Mercaptopropionic Acid. Journal of the American Chemical Society, 2014, 136, 7233-7236.	13.7	57
89	Qualitative Analysis of Bulk-Heterojunction Solar Cells without Device Fabrication: An Elegant and Contactless Method. Journal of the American Chemical Society, 2014, 136, 10949-10955.	13.7	28
90	Polymer-assisted solâ€“gel process for the preparation of photostimulable core/shell structured SiO 2 /Zn 2 SiO 4 :Mn 2+ particles. Materials Chemistry and Physics, 2014, 148, 1055-1063.	4.0	23

#	Article	IF	Citations
91	Photoluminescent and storage properties of photostimulable core/shell type silicate nanoparticles. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 180-184.	0.8	4
92	Enhanced photosynthetic activity in Spinacia oleracea by spectral modification with a photoluminescent light converting material. Optics Express, 2013, 21, A909.	3.4	18
93	Enhanced photosynthetic activity in Spinacia oleracea by spectral modification with a photoluminescent light converting material. Optics Express, 2013, 21, 909.	3.4	7
94	Up-conversion semiconducting MoO3:Yb/Er nanocomposites as buffer layer in organic solar cells. Solar Energy Materials and Solar Cells, 2012, 105, 196-201.	6.2	46
95	Preparation of luminescent inorganic core/shell-structured nanoparticles. Materials Research Society Symposia Proceedings, 2011, 1342, 3.	0.1	0
96	Rareâ€Earth Ion Doped Upâ€Conversion Materials for Photovoltaic Applications. Advanced Materials, 2011, 23, 2675-2680.	21.0	465
97	Synthesis and optical properties of luminescent coreâ€“shell structured silicate and phosphate nanoparticles. Optical Materials, 2011, 33, 1106-1110.	3.6	14
98	Luminescent silicate coreâ€“shell nanoparticles: Synthesis, functionalization, optical, and structural properties. Journal of Colloid and Interface Science, 2011, 358, 32-38.	9.4	14
99	Radiation hardness of the storage phosphor europium doped potassium chloride for radiation therapy dosimetry. Medical Physics, 2011, 38, 4681-4688.	3.0	10
100	Red-emitting Ca1-xSrxS:Eu2+ Phosphors as Light Converters for Plant-growth Applications. Materials Research Society Symposia Proceedings, 2011, 1342, 15.	0.1	2
101	Photostimulable Fluorescent Nanoparticles for Biological Imaging. Materials Research Society Symposia Proceedings, 2011, 1342, 21.	0.1	1
102	Quantum yield of Eu2+ emission in (Ca1â^'xSrx)S:Eu light emitting diode converter at 20â€“420K. Radiation Measurements, 2010, 45, 350-352.	1.4	32
103	Memory and neural networks on the basis of color centers in solids. Biological Chemistry, 2009, 390, 1133-1138.	2.5	1
104	Synthesis, crystal structures and luminescence properties of the Eu3+-doped yttrium oxotellurates(IV) Y2Te4O11 and Y2Te5O13. Journal of Solid State Chemistry, 2008, 181, 2783-2788.	2.9	20
105	Temperature and pressure dependence of the homogeneous width of 7F0â€“5D0 electronic transition in Sm2+-doped sodium borate glass. Journal of Luminescence, 2007, 122-123, 74-76.	3.1	2
106	Synthesis and Spectroscopic Investigations of Cu- and Pb-Doped Colloidal ZnS Nanocrystals. Journal of Physical Chemistry B, 2006, 110, 23175-23178.	2.6	49
107	Simultaneous excitation of Ce3+ and Eu3+ ions in Tb3Al5O12. Radiation Measurements, 2004, 38, 539-543.	1.4	98
108	On the energy transfer from Tb3+ to Eu3+ in LiTb1â^'xEuxP4O12. Radiation Measurements, 2004, 38, 529-532.	1.4	25

#	Article	IF	Citations
109	Spectral hole burning in Sm2+-doped alkaliborate glasses and Tb3+-doped silicate and borate glasses. Journal of Luminescence, 2000, 86, 323-332.	3.1	6
110	Spectroscopic Study of Formation of Irradiation Defects in Diamond, Suitable for Persistent Spectral Hole Burning. Molecular Crystals and Liquid Crystals, 1996, 291, 241-249.	0.3	2
111	Effect of Post-Annealing Treatment on the Structure and Luminescence Properties of AIN:Tb³⁺ Thin Films Prepared by Radio Frequency Magnetron Sputtering. Materials Science Forum, 0, 890, 299-302.	0.3	4
112	Quantitative Analysis of Charge Dissociation by Selectively Characterizing Exciton Splitting Efficiencies in Single Component Materials. Israel Journal of Chemistry, 0, , .	2.3	0
113	Unraveling the Charge Carrier Dynamics from the Femtosecond to the Microsecond Timescale in Double-cable Polymer-based Single-component Organic Solar Cells. , 0, , .		0