Gebhard J Matt

List of Publications by Year
in descending order

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34 papers	4,074 citations	257450 24 h-index	395702 33 g-index
34 all docs	34 docs citations	34 times ranked	6622 citing authors

#	Article	IF	Citations
1	Detection of X-ray photons by solution-processed lead halide perovskites. Nature Photonics, 2015, 9, 444-449.	31.4	916
2	High-performance direct conversion X-ray detectors based on sintered hybrid lead triiodide perovskite wafers. Nature Photonics, 2017, 11, 436-440.	31.4	442
3	Brightly Luminescent and Color-Tunable Formamidinium Lead Halide Perovskite FAPbX₃ (X) Tj ETQq1 1 0.784314 rgBT /Ov	9.1	356
4	Abnormal strong burn-in degradation of highly efficient polymer solar cells caused by spinodal donor-acceptor demixing. Nature Communications, 2017, 8, 14541.	12.8	298
5	Sprayâ€Coated Silver Nanowires as Top Electrode Layer in Semitransparent P3HT:PCBMâ€Based Organic Solar Cell Devices. Advanced Functional Materials, 2013, 23, 1711-1717.	14.9	216
6	Overcoming the Interface Losses in Planar Heterojunction Perovskiteâ€Based Solar Cells. Advanced Materials, 2016, 28, 5112-5120.	21.0	188
7	Local Observation of Phase Segregation in Mixed-Halide Perovskite. Nano Letters, 2018, 18, 2172-2178.	9.1	186
8	ITOâ€Free and Fully Solutionâ€Processed Semitransparent Organic Solar Cells with High Fill Factors. Advanced Energy Materials, 2013, 3, 1062-1067.	19.5	172
9	A Universal Interface Layer Based on an Amineâ€Functionalized Fullerene Derivative with Dual Functionality for Efficient Solution Processed Organic and Perovskite Solar Cells. Advanced Energy Materials, 2015, 5, 1401692.	19.5	144
10	Photoinduced degradation of methylammonium lead triiodide perovskite semiconductors. Journal of Materials Chemistry A, 2016, 4, 15896-15903.	10.3	119
11	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
12	Discerning recombination mechanisms and ideality factors through impedance analysis of high-efficiency perovskite solar cells. Nano Energy, 2018, 48, 63-72.	16.0	103
13	Strain-activated light-induced halide segregation in mixed-halide perovskite solids. Nature Communications, 2020, 11, 6328.	12.8	86
14	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
15	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
16	Discovery of temperature-induced stability reversal in perovskites using high-throughput robotic learning. Nature Communications, 2021, 12, 2191.	12.8	77
17	Revealing Hidden UV Instabilities in Organic Solar Cells by Correlating Device and Material Stability. Advanced Energy Materials, 2019, 9, 1902124.	19.5	74
18	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

#	Article	IF	Citations
19	Suppression of Hysteresis Effects in Organohalide Perovskite Solar Cells. Advanced Materials Interfaces, 2017, 4, 1700007.	3.7	57
20	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
21	A perspective on the bright future of metal halide perovskites for X-ray detection. Applied Physics Letters, 2019, 115, .	3.3	45
22	Ionic dipolar switching hinders charge collection in perovskite solar cells with normal and inverted hysteresis. Solar Energy Materials and Solar Cells, 2019, 195, 291-298.	6.2	29
23	Selfâ€Healing Cs₃Bi₂Br₃I₆ Perovskite Wafers for Xâ€Ray Detection. Advanced Functional Materials, 2021, 31, 2102713.	14.9	29
24	Revealing Trap States in Lead Sulphide Colloidal Quantum Dots by Photoinduced Absorption Spectroscopy. Advanced Electronic Materials, 2018, 4, 1700348.	5.1	25
25	Absence of Charge Transfer State Enables Very Low V_{OC} Losses in SWCNT:Fullerene Solar Cells. Advanced Energy Materials, 2019, 9, 1801913.	19.5	25
26	Light intensity modulated impedance spectroscopy (LIMIS) in all-solid-state solar cells at open-circuit. Nano Energy, 2020, 75, 104982.	16.0	22
27	Single molecular precursor ink for AgBiS₂ thin films: synthesis and characterization. Journal of Materials Chemistry C, 2018, 6, 7642-7651.	5.5	20
28	Looking beyond the Surface: The Band Gap of Bulk Methylammonium Lead Iodide. Nano Letters, 2020, 20, 3090-3097.	9.1	16
29	Analytical model for light modulating impedance spectroscopy (LIMIS) in all-solid-state p-n junction solar cells at open-circuit. Applied Physics Letters, 2020, 116, .	3.3	13
30	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
31	Electrical-Field-Driven Tunable Spectral Responses in a Broadband-Absorbing Perovskite Photodiode. ACS Applied Materials & Interfaces, 2019, 11, 39018-39025.	8.0	8
32	Characterization of Aerosol Deposited Cesium Lead Tribromide Perovskite Films on Interdigited ITO Electrodes. Advanced Electronic Materials, 2021, 7, 2001165.	5.1	5
33	Degradation through Directional Selfâ€Doping and Homogeneous Density of Recombination Centers Hindered by 1,8â€Diiodooctane Additive in Nonâ€Fullerene Organic Solar Cells. Solar Rrl, 2021, 5, 2100024.	5.8	4
34	Long term Surface and Bulk Currents with Space-Charge Effects in Lead Halide Perovskites. , 0, , .		0