

Alexander Hinderhofer

List of Publications by Year in descending order

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97
papers

4,978
citations

136950

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docs citations

97
times ranked

6101
citing authors

#	ARTICLE	IF	CITATIONS
1	Perovskite solar cells with CuSCN hole extraction layers yield stabilized efficiencies greater than 20%. <i>Science</i> , 2017, 358, 768-771.	12.6	1,285
2	Ultrahydrophobic 3D/2D fluoroarene bilayer-based water-resistant perovskite solar cells with efficiencies exceeding 22%. <i>Science Advances</i> , 2019, 5, eaaw2543.	10.3	524
3	Stabilization of Highly Efficient and Stable Phase-Pure FAPbI ₃ Perovskite Solar Cells by Molecularly Tailored 2D-Overlayers. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 15688-15694.	13.8	201
4	Perovskite-organic tandem solar cells with indium oxide interconnect. <i>Nature</i> , 2022, 604, 280-286.	27.8	181
5	High Fill Factor and Open Circuit Voltage in Organic Photovoltaic Cells with Diindenoperylene as Donor Material. <i>Advanced Functional Materials</i> , 2010, 20, 4295-4303.	14.9	175
6	Organic-Organic Heterostructures: Concepts and Applications. <i>ChemPhysChem</i> , 2012, 13, 628-643.	2.1	137
7	Optical properties of pentacene and perfluoropentacene thin films. <i>Journal of Chemical Physics</i> , 2007, 127, 194705.	3.0	131
8	Roadmap on organic-inorganic hybrid perovskite semiconductors and devices. <i>APL Materials</i> , 2021, 9, .	5.1	102
9	Impact of molecular quadrupole moments on the energy levels at organic heterojunctions. <i>Nature Communications</i> , 2019, 10, 2466.	12.8	101
10	High-mobility copper-phthalocyanine field-effect transistors with tetratetracontane passivation layer and organic metal contacts. <i>Journal of Applied Physics</i> , 2010, 107, .	2.5	96
11	Exciton-phonon coupling in diindenoperylene thin films. <i>Physical Review B</i> , 2008, 78, .	3.2	91
12	Real-Time Changes in the Optical Spectrum of Organic Semiconducting Films and Their Thickness Regimes during Growth. <i>Physical Review Letters</i> , 2010, 104, 257401.	7.8	78
13	<i>V_{oc}</i> from a Morphology Point of View: the Influence of Molecular Orientation on the Open Circuit Voltage of Organic Planar Heterojunction Solar Cells. <i>Journal of Physical Chemistry C</i> , 2014, 118, 26462-26470.	3.1	78
14	Robust singlet fission in pentacene thin films with tuned charge transfer interactions. <i>Nature Communications</i> , 2018, 9, 954.	12.8	76
15	Multimodal host-guest complexation for efficient and stable perovskite photovoltaics. <i>Nature Communications</i> , 2021, 12, 3383.	12.8	72
16	Structure, morphology, and growth dynamics of perfluoropentacene thin films. <i>Physica Status Solidi - Rapid Research Letters</i> , 2008, 2, 120-122.	2.4	67
17	Mixed crystalline films of co-evaporated hydrogen- and fluorine-terminated phthalocyanines and their application in photovoltaic devices. <i>Organic Electronics</i> , 2009, 10, 1259-1267.	2.6	65
18	Formamidinium-Based Dion-Jacobson Layered Hybrid Perovskites: Structural Complexity and Optoelectronic Properties. <i>Advanced Functional Materials</i> , 2020, 30, 2003428.	14.9	61

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19	Nanoscale Phase Segregation in Supramolecular π -Templating for Hybrid Perovskite Photovoltaics from NMR Crystallography. <i>Journal of the American Chemical Society</i> , 2021, 143, 1529-1538.	13.7	55
20	Charge Separation at Molecular Donor-Acceptor Interfaces: Correlation Between Morphology and Solar Cell Performance. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2010, 16, 1707-1717.	2.9	53
21	Structure and morphology of coevaporated pentacene-perfluoropentacene thin films. <i>Journal of Chemical Physics</i> , 2011, 134, 104702.	3.0	50
22	Epitaxial Growth of an Organic π -n Heterojunction: C ₆₀ on Single-Crystal Pentacene. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 13499-13505.	8.0	49
23	A combined molecular dynamics and experimental study of two-step process enabling low-temperature formation of phase-pure π -FAPbI ₃ . <i>Science Advances</i> , 2021, 7, .	10.3	49
24	Molecular semiconductor blends: Microstructure, charge carrier transport, and application in photovoltaic cells. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2009, 206, 2683-2694.	1.8	47
25	Origin of the energy level alignment at organic/organic interfaces: The role of structural defects. <i>Physical Review B</i> , 2014, 89, .	3.2	47
26	Geometric and Electronic Structure of Templated C ₆₀ on Diindenoperylene Thin Films. <i>Journal of Physical Chemistry C</i> , 2013, 117, 1053-1058.	3.1	44
27	Optical evidence for intermolecular coupling in mixed films of pentacene and perfluoropentacene. <i>Physical Review B</i> , 2011, 83, .	3.2	42
28	Evidence for Anisotropic Electronic Coupling of Charge Transfer States in Weakly Interacting Organic Semiconductor Mixtures. <i>Journal of the American Chemical Society</i> , 2017, 139, 8474-8486.	13.7	40
29	Minimizing the Trade-Off between Photocurrent and Photovoltage in Triple-Cation Mixed-Halide Perovskite Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 10188-10195.	4.6	36
30	Evidence for Kinetically Limited Thickness Dependent Phase Separation in Organic Thin Film Blends. <i>Physical Review Letters</i> , 2013, 110, 185506.	7.8	35
31	Crystal Grain Orientation in Organic Homo- and Heteroepitaxy of Pentacene and Perfluoropentacene Studied with X-ray Spectromicroscopy. <i>Journal of Physical Chemistry C</i> , 2010, 114, 13061-13067.	3.1	34
32	Multivalent-Ion-Activated Protein Adsorption Reflecting Bulk Reentrant Behavior. <i>Physical Review Letters</i> , 2017, 119, 228001.	7.8	33
33	Simultaneous in situ measurements of x-ray reflectivity and optical spectroscopy during organic semiconductor thin film growth. <i>Applied Physics Letters</i> , 2010, 97, 063301.	3.3	31
34	Smoothing and coherent structure formation in organic-organic heterostructure growth. <i>Europhysics Letters</i> , 2010, 91, 56002.	2.0	31
35	Growth of Competing Crystal Phases of π -Sexithiophene Studied by Real-Time <i>in Situ</i> X-ray Scattering. <i>Journal of Physical Chemistry C</i> , 2015, 119, 819-825.	3.1	31
36	Fast fitting of reflectivity data of growing thin films using neural networks. <i>Journal of Applied Crystallography</i> , 2019, 52, 1342-1347.	4.5	29

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37	Templating Effect for Organic Heterostructure Film Growth: Perfluoropentacene on Diindenoperylene. <i>Journal of Physical Chemistry C</i> , 2011, 115, 16155-16160.	3.1	28
38	Kinetics of Ion-Exchange Reactions in Hybrid Organic-Inorganic Perovskite Thin Films Studied by In Situ Real-Time X-ray Scattering. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 6750-6754.	4.6	28
39	Benzylammonium-Mediated Formamidinium Lead Iodide Perovskite Phase Stabilization for Photovoltaics. <i>Advanced Functional Materials</i> , 2021, 31, 2101163.	14.9	28
40	Quantitatively identical orientation-dependent ionization energy and electron affinity of diindenoperylene. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	27
41	Function Follows Form: Correlation between the Growth and Local Emission of Perovskite Structures and the Performance of Solar Cells. <i>Advanced Functional Materials</i> , 2017, 27, 1701433.	14.9	26
42	Mixing-Induced Anisotropic Correlations in Molecular Crystalline Systems. <i>Physical Review Letters</i> , 2012, 109, 156102.	7.8	25
43	Post-growth surface smoothing of thin films of diindenoperylene. <i>Applied Physics Letters</i> , 2012, 101, 033307.	3.3	23
44	The Role of Alkyl Chain Length and Halide Counter Ion in Layered Dion-Jacobson Perovskites with Aromatic Spacers. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 10325-10332.	4.6	23
45	Thickness and Substrate Dependent Thin Film Growth of Picene and Impact on the Electronic Structure. <i>Journal of Physical Chemistry C</i> , 2015, 119, 29027-29037.	3.1	21
46	Real-Time Monitoring of Growth and Orientational Alignment of Pentacene on Epitaxial Graphene for Organic Electronics. <i>ACS Applied Nano Materials</i> , 2018, 1, 2819-2826.	5.0	21
47	Uniaxial anisotropy of organic thin films determined by ellipsometry. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2008, 205, 927-930.	1.8	20
48	Structural and Optical Properties of Mixed Diindenoperylene-Perfluoropentacene Thin Films. <i>Journal of Physical Chemistry C</i> , 2012, 116, 10917-10923.	3.1	19
49	Real-Time Structural and Optical Study of Growth and Packing Behavior of Perylene Diimide Derivative Thin Films: Influence of Side-Chain Modification. <i>Journal of Physical Chemistry C</i> , 2018, 122, 8589-8601.	3.1	19
50	Structural Defects Control the Energy Level Alignment at Organic/Organic Interfaces. <i>Advanced Materials Interfaces</i> , 2014, 1, 1400004.	3.7	18
51	Thin-Film Texture and Optical Properties of Donor/Acceptor Complexes. Diindenoperylene/F6TCNNQ vs Alpha-Sexithiophene/F6TCNNQ. <i>Journal of Physical Chemistry C</i> , 2018, 122, 18705-18714.	3.1	17
52	Role of Morphology and Förster Resonance Energy Transfer in Ternary Blend Organic Solar Cells. <i>ACS Applied Energy Materials</i> , 2020, 3, 12025-12036.	5.1	17
53	Stabilization of Highly Efficient and Stable Phase-Pure FAPbI ₃ Perovskite Solar Cells by Molecularly Tailored 2D-Overlayers. <i>Angewandte Chemie</i> , 2020, 132, 15818-15824.	2.0	17
54	Template-Free Orientation Selection of Rod-Like Molecular Semiconductors in Polycrystalline Films. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 1031-1036.	4.6	15

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55	Diindenoperylene thin-film structure on MoS ₂ monolayer. Applied Physics Letters, 2019, 114, .	3.3	14
56	Unravelling the structural complexity and photophysical properties of adamantyl-based layered hybrid perovskites. Journal of Materials Chemistry A, 2020, 8, 17732-17740.	10.3	14
57	Crystallization of 2D Hybrid Organic-Inorganic Perovskites Templated by Conductive Substrates. Advanced Functional Materials, 2021, 31, 2009007.	14.9	14
58	Structural Properties of Picene-Perfluoropentacene and Picene-Pentacene Blends: Superlattice Formation versus Limited Intermixing. Journal of Physical Chemistry C, 2015, 119, 26339-26347.	3.1	13
59	Ground-state charge-transfer interactions in donor:acceptor pairs of organic semiconductors – a spectroscopic study of two representative systems. Physical Chemistry Chemical Physics, 2019, 21, 17190-17199.	2.8	13
60	Lattice gas study of thin-film growth scenarios and transitions between them: Role of substrate. Physical Review E, 2021, 103, 023302.	2.1	13
61	Quantifying Stabilized Phase Purity in Formamidinium-Based Multiple-Cation Hybrid Perovskites. Chemistry of Materials, 2021, 33, 2769-2776.	6.7	13
62	Neural network analysis of neutron and x-ray reflectivity data: pathological cases, performance and perspectives. Machine Learning: Science and Technology, 2021, 2, 045003.	5.0	13
63	Real-time X-ray scattering studies on temperature dependence of perfluoropentacene thin film growth. Journal of Applied Physics, 2013, 114, 043515.	2.5	12
64	Kinetics and energetics of metal halide perovskite conversion reactions at the nanoscale. Communications Materials, 2022, 3, .	6.9	12
65	Structure formation in perfluoropentacene:diindenoperylene blends and its impact on transient effects in the optical properties studied in real-time during growth. Journal of Chemical Physics, 2013, 139, 174709.	3.0	11
66	Controlling length-scales of the phase separation to optimize organic semiconductor blends. Applied Physics Letters, 2015, 107, .	3.3	11
67	Growth, Structure, and Anisotropic Optical Properties of Difluoro-anthradithiophene Thin Films. Journal of Physical Chemistry C, 2017, 121, 21011-21017.	3.1	11
68	Enhanced protein adsorption upon bulk phase separation. Scientific Reports, 2020, 10, 10349.	3.3	11
69	Reorientation of π -conjugated molecules on few-layer MoS ₂ films. Physical Chemistry Chemical Physics, 2020, 22, 3097-3104.	2.8	11
70	Templating Effects of π -Sexithiophene in Donor-Acceptor Organic Thin Films. Journal of Physical Chemistry C, 2015, 119, 23211-23220.	3.1	10
71	Growth and annealing kinetics of π -sexithiophene and fullerene C ₆₀ mixed films. Journal of Applied Crystallography, 2016, 49, 1266-1275.	4.5	10
72	Structural, optical, and electronic characterization of perfluorinated sexithiophene films and mixed films with sexithiophene. Journal of Materials Research, 2017, 32, 1908-1920.	2.6	10

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73	Structure-Dependent Charge Transfer in Molecular Perylene-Based Donor/Acceptor Systems and Role of Side Chains. <i>Journal of Physical Chemistry C</i> , 2020, 124, 11639-11651.	3.1	10
74	Tracking perovskite crystallization via deep learning-based feature detection on 2D X-ray scattering data. <i>Npj Computational Materials</i> , 2022, 8, .	8.7	9
75	Optical Properties of Perovskite-Organic Multiple Quantum Wells. <i>Advanced Science</i> , 2022, 9, .	11.2	9
76	Structural and Trap-State Density Enhancement in Flash Infrared Annealed Perovskite Layers. <i>Advanced Materials Interfaces</i> , 2021, 8, 2100355.	3.7	8
77	Molecular Charge Transfer Effects on Perylene Diimide Acceptor and Dinaphthothienothiophene Donor Systems. <i>Journal of Physical Chemistry C</i> , 2022, 126, 4188-4198.	3.1	7
78	Neural network analysis of neutron and X-ray reflectivity data: automated analysis using <i>mlreflect</i> , experimental errors and feature engineering. <i>Journal of Applied Crystallography</i> , 2022, 55, 362-369.	4.5	7
79	Influence of C60 co-deposition on the growth kinetics of diindenoperylene-From rapid roughening to layer-by-layer growth in blended organic films. <i>Journal of Chemical Physics</i> , 2017, 146, 052807.	3.0	6
80	Interrupted Growth to Manipulate Phase Separation in DIP:C60 Organic Semiconductor Blends. <i>Journal of Physical Chemistry C</i> , 2018, 122, 1839-1845.	3.1	6
81	Ordered Donor-Acceptor Complex Formation and Electron Transfer in Co-deposited Films of Structurally Dissimilar Molecules. <i>Journal of Physical Chemistry C</i> , 2020, 124, 11023-11031.	3.1	6
82	Polymorphism and structure formation in copper phthalocyanine thin films. <i>Journal of Applied Crystallography</i> , 2021, 54, 203-210.	4.5	6
83	Preserving the stoichiometry of triple-cation perovskites by carrier-gas-free antisolvent spraying. <i>Journal of Materials Chemistry A</i> , 2022, 10, 19743-19749.	10.3	6
84	Simultaneous Monitoring of Molecular Thin Film Morphology and Crystal Structure by X-ray Scattering. <i>Crystal Growth and Design</i> , 2020, 20, 5269-5276.	3.0	5
85	Microstructure and charge carrier transport in phthalocyanine based. <i>Materials Research Society Symposia Proceedings</i> , 2009, 1154, 1.	0.1	3
86	Structure of Thin Films of [6] and [7]Phenacene and Impact of Potassium Deposition. <i>Advanced Optical Materials</i> , 2021, 9, 2002193.	7.3	3
87	On the Origin of Gap States in Molecular Semiconductors-A Combined UPS, AFM, and X-ray Diffraction Study. <i>Journal of Physical Chemistry C</i> , 2021, 125, 17929-17938.	3.1	3
88	Thin films of electron donor-acceptor complexes: characterisation of mixed-crystalline phases and implications for electrical doping. <i>Materials Advances</i> , 2022, 3, 1017-1034.	5.4	3
89	Thickness-Dependent Energy Level Alignment at the Organic-Organic Interface Induced by Templated Gap States. <i>Advanced Materials Interfaces</i> , 2022, 9, .	3.7	3
90	Delayed phase separation in growth of organic semiconductor blends with limited intermixing. <i>Physica Status Solidi - Rapid Research Letters</i> , 2017, 11, 1600428.	2.4	2

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91	Charge Separation at Nanostructured Molecular Donor–Acceptor Interfaces. <i>Advances in Polymer Science</i> , 2017, , 77-108.	0.8	2
92	Revealing Suppressed Intermolecular Coupling Effects in Aggregated Organic Semiconductors by Diluting the Crystal: Model System Perfluoropentacene:Picene. <i>Journal of Physical Chemistry A</i> , 2019, 123, 7016-7020.	2.5	2
93	Novel highly substituted thiophene-based n-type organic semiconductor: structural study, optical anisotropy and molecular control. <i>CrystEngComm</i> , 2020, 22, 7095-7103.	2.6	2
94	Thin film growth of phase-separating phthalocyanine-fullerene blends: A combined experimental and computational study. <i>Physical Review Materials</i> , 2021, 5, .	2.4	2
95	Coexistence of Ion Pairs and Charge-Transfer Complexes and Their Impact on Pentacene Singlet Fission. <i>Journal of Physical Chemistry C</i> , 0, , .	3.1	2
96	Roughness evolution in strongly interacting donor:acceptor mixtures of molecular semiconductors. An in situ, real-time growth study using x-ray reflectivity. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 115003.	1.8	1
97	Nonequilibrium Roughness Evolution of Small Molecule Mixed Films Reflecting Equilibrium Phase Behavior. <i>Journal of Physical Chemistry C</i> , 2022, 126, 11348-11357.	3.1	0