Steffen Duhm

List of Publications by Year
in descending order

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Version: 2024-02-01

114 papers	7,431 citations	61687 45 h-index	62345 84 g-index
116 all docs	116 docs citations	116 times ranked	10153 citing authors

#	Article	IF	Citations
1	Impact of Substrate Hydrophobicity on Layer Composition and Work Function of PEDOT:PSS Thin Films. Physica Status Solidi - Rapid Research Letters, 2022, 16, 2100434.	1.2	6
2	Revealing a Zinc Oxide/Perovskite Luminescence Quenching Mechanism Targeting Low-Roll-off Light-Emitting Diodes. Journal of Physical Chemistry Letters, 2022, 13, 3121-3129.	2.1	7
3	Interface energetics in organic electronic devices. , 2021, , 143-164.		3
4	Pentacene/perfluoropentacene bilayers on Au(111) and Cu(111): impact of organicâ€“metal coupling strength on molecular structure formation. Nanoscale Advances, 2021, 3, 2598-2606.	2.2	8
5	Enhanced carrier injection hotspot effect by direct and simple ITO surface engineering. Applied Physics Letters, 2021, 118, 223301.	1.5	2
6	Photoelectron spectroscopy reveals molecular diffusion through physisorbed template layers on Au(111). Electronic Structure, 2021, 3, 024002.	1.0	4
7	Advanced Data Encryption â€‹using 2D Materials. Advanced Materials, 2021, 33, e2100185.	11.1	67
8	Schottky contact formation by an insulator: Lithium fluoride on silicon. Applied Physics Letters, 2021, 118, .	1.5	7
9	The effect of water on colloidal quantum dot solar cells. Nature Communications, 2021, 12, 4381.	5.8	44
10	Direct Observation of Conductive Polymer Induced Inversion Layer in nâ€‹Si and Correlation to Solar Cell Performance. Advanced Functional Materials, 2020, 30, 1903440.	7.8	29
11	Highâ€‹Performance Perovskite Lightâ€‹Emitting Diode with Enhanced Operational Stability Using Lithium Halide Passivation. Angewandte Chemie, 2020, 132, 4128-4134.	1.6	8
12	Highâ€‹Performance Perovskite Lightâ€‹Emitting Diode with Enhanced Operational Stability Using Lithium Halide Passivation. Angewandte Chemie - International Edition, 2020, 59, 4099-4105.	7.2	130
13	Dipolar Substitution Impacts Growth and Electronic Properties of Para â€‹exiphenyl Thin Films. Advanced Materials Interfaces, 2020, 7, 1901707.	1.9	5
14	Impact of fluorination on interface energetics and growth of pentacene on Ag(111). Beilstein Journal of Nanotechnology, 2020, 11, 1361-1370.	1.5	4
15	Substrate-Independent Energy-Level Pinning of an Organic Semiconductor Providing Versatile Hole-Injection Electrodes. ACS Applied Electronic Materials, 2020, 2, 3994-4001.	2.0	9
16	Binding and electronic level alignment of Ï€-conjugated systems on metals. Reports on Progress in Physics, 2020, 83, 066501.	8.1	32
17	An Organic Borate Salt with Superior pâ€‹Doping Capability for Organic Semiconductors. Advanced Science, 2020, 7, 2001322.	5.6	32
18	Heteromolecular Bilayers on a Weakly Interacting Substrate: Physisorptive Bonding and Molecular Distortions of Copperâ€“Hexadecafluorophthalocyanine. ACS Applied Materials & Interfaces, 2020, 12, 14542-14551.	4.0	8

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19	Perovskite-Inspired Lead-Free Ag2BiI5 for Self-Powered NIR-Blind Visible Light Photodetection. Nano-Micro Letters, 2020, 12, 27.	14.4	46
20	Electrostatic Interactions Shape Molecular Organization and Electronic Structure of Organic Semiconductor Blends. Chemistry of Materials, 2020, 32, 1261-1271.	3.2	24
21	Guanidiniumâ€Assisted Surface Matrix Engineering for Highly Efficient Perovskite Quantum Dot Photovoltaics. Advanced Materials, 2020, 32, e2001906.	11.1	125
22	X-ray standing waves reveal lack of OH termination at hydroxylated ZnO(0001) surfaces. Physical Review Materials, 2020, 4, .	0.9	6
23	Energy-level alignment at strongly coupled organicâ€“metal interfaces. Journal of Physics Condensed Matter, 2019, 31, 194002.	0.7	12
24	Surface CH₃NH₃⁺ to CH₃⁺ Ratio Impacts the Work Function of Solutionâ€Processed and Vacuumâ€Sublimed CH₃NH₃PbI₃ Thin Films. Advanced Materials Interfaces, 2019, 6, 1801827.	1.9	9
25	14.1% CsPbI₃ Perovskite Quantum Dot Solar Cells via Cesium Cation Passivation. Advanced Energy Materials, 2019, 9, 1900721.	10.2	254
26	Suppressing defect states in CsPbBr₃ perovskite via magnesium substitution for efficient all-inorganic light-emitting diodes. Nanoscale Horizons, 2019, 4, 924-932.	4.1	34
27	Surface modification of ZnO electron transport layers with glycine for efficient inverted non-fullerene polymer solar cells. Organic Electronics, 2019, 70, 25-31.	1.4	41
28	Doped copper phthalocyanine via an aqueous solution process for high-performance organic light-emitting diodes. Organic Electronics, 2019, 68, 236-241.	1.4	18
29	Interfacial Synthesis of Monodisperse CsPbBr₃ Nanorods with Tunable Aspect Ratio and Clean Surface for Efficient Light-Emitting Diode Applications. Chemistry of Materials, 2019, 31, 1575-1583.	3.2	78
30	Alternative Type Two-Dimensionalâ€“Three-Dimensional Lead Halide Perovskite with Inorganic Sodium Ions as a Spacer for High-Performance Light-Emitting Diodes. ACS Nano, 2019, 13, 1645-1654.	7.3	43
31	Modification of TiO 2 (1â€‰1â€‰0)/organic hole transport layer interface energy levels by a dipolar perylene derivative. Electronic Structure, 2019, 1, 015007.	1.0	3
32	Constructing the Electronic Structure of CH₃NH₃PbI₃ and CH₃NH₃PbBr₃ Perovskite Thin Films from Single-Crystal Band Structure Measurements. Journal of Physical Chemistry Letters, 2019, 10, 601-609.	2.1	78
33	Strong Depletion in Hybrid Perovskite pâ€“n Junctions Induced by Local Electronic Doping. Advanced Materials, 2018, 30, e1705792.	11.1	141
34	Ultraviolet photoelectron spectroscopy reveals energy-band dispersion forÏ€-stacked 7,8,15,16-tetraazaterrylene thin films in a donorâ€“acceptor bulk heterojunction. Nanotechnology, 2018, 29, 194002.	1.3	8
35	Bilayer Formation vs Molecular Exchange in Organic Heterostructures: Strong Impact of Subtle Changes in Molecular Structure. Journal of Physical Chemistry C, 2018, 122, 9480-9490.	1.5	27
36	Characteristics of Organicâ€“Metal Interaction: A Perspective from Bonding Distance to Orbital Delocalization. Journal of the Physical Society of Japan, 2018, 87, 061008.	0.7	10

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37	Stoichiometric and Oxygen-Deficient VO₂ as Versatile Hole Injection Electrode for Organic Semiconductors. ACS Applied Materials & Interfaces, 2018, 10, 10552-10559.	4.0	13
38	Band-Aligned Polymeric Hole Transport Materials for Extremely Low Energy Loss Î±-CsPbI3 Perovskite Nanocrystal Solar Cells. Joule, 2018, 2, 2450-2463.	11.7	275
39	Oxygen Vacancies Allow Tuning the Work Function of Vanadium Dioxide. Advanced Materials Interfaces, 2018, 5, 1801033.	1.9	20
40	Bright inverted quantum-dot light-emitting diodes by all-solution processing. Journal of Materials Chemistry C, 2018, 6, 7487-7492.	2.7	24
41	A diuranium carbide cluster stabilized inside a C80 fullerene cage. Nature Communications, 2018, 9, 2753.	5.8	63
42	Carrier injection in organic electronics: Injection hotspot effect beyond barrier reduction effect. Applied Physics Letters, 2018, 113, 043302.	1.5	4
43	Resolving intramolecular-distortion changes induced by the partial fluorination of pentacene adsorbed on Cu(111). Physical Review Materials, 2018, 2, .	0.9	10
44	Impact of room temperature on pentacene thin film growth and electronic structure. Canadian Journal of Chemistry, 2017, 95, 1130-1134.	0.6	4
45	CH₃NH₃PbI_{3â€“x}Cl_x under Different Fabrication Strategies: Electronic Structures and Energy-Level Alignment with an Organic Hole Transport Material. ACS Applied Materials & Interfaces, 2017, 9, 7859-7865.	4.0	23
46	Improved Performance and Stability of Allâ€Inorganic Perovskite Lightâ€Emitting Diodes by Antisolvent Vapor Treatment. Advanced Functional Materials, 2017, 27, 1700338.	7.8	221
47	Investigation of MoO_x/nâ€Si strong inversion layer interfaces via dopantâ€free heterocontact. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1700107.	1.2	56
48	Impact of White Light Illumination on the Electronic and Chemical Structures of Mixed Halide and Single Crystal Perovskites. Advanced Optical Materials, 2017, 5, 1700139.	3.6	136
49	Picene thin films on metal surfaces: Impact of molecular shape on interfacial coupling. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1700012.	1.2	8
50	Orientation-Dependent Work-Function Modification Using Substituted Pyrene-Based Acceptors. Journal of Physical Chemistry C, 2017, 121, 24657-24668.	1.5	39
51	Cu-Doped nickel oxide prepared using a low-temperature combustion method as a hole-injection layer for high-performance OLEDs. Journal of Materials Chemistry C, 2017, 5, 11751-11757.	2.7	34
52	Surface charge transfer doping induced inversion layer for high-performance graphene/silicon heterojunction solar cells. Journal of Materials Chemistry A, 2017, 5, 285-291.	5.2	52
53	Metal-organic interface functionalization via acceptor end groups: PTCDI on coinage metals. Physical Review Materials, 2017, 1, .	0.9	18
54	Nanostructured Si/Organic Heterojunction Solar Cells with High Openâ€Circuit Voltage via Improving Junction Quality. Advanced Functional Materials, 2016, 26, 5035-5041.	7.8	86

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55	Nitrogen substitution impacts organic-metal interface energetics. Physical Review B, 2016, 94, .	1.1	15
56	Pentacene on Au(1â€‰1â€‰1), Ag(1â€‰1â€‰1) and Cu(1â€‰1â€‰1): From physisorption to chemisorption. Journal of Physics Condensed Matter, 2016, 28, 094005.	0.7	45
57	Solvent-resistant ITO work function tuning by an acridine derivative enables high performance inverted polymer solar cells. Organic Electronics, 2016, 35, 6-11.	1.4	12
58	Surface Charge Transfer Doping via Transition Metal Oxides for Efficient p-Type Doping of IIâ€“VI Nanostructures. ACS Nano, 2016, 10, 10283-10293.	7.3	31
59	Transient Monolayer Structure of Rubrene on Graphite: Impact on Holeâ€“Phonon Coupling. Journal of Physical Chemistry C, 2016, 120, 14568-14574.	1.5	16
60	Surface-Controlled Mono/Diselective ortho Câ€“H Bond Activation. Journal of the American Chemical Society, 2016, 138, 2809-2814.	6.6	120
61	Energy Level Offsets at Lead Halide Perovskite/Organic Hybrid Interfaces and Their Impacts on Charge Separation. Advanced Materials Interfaces, 2015, 2, 1400528.	1.9	122
62	On-Surface Synthesis of Rylene-Type Graphene Nanoribbons. Journal of the American Chemical Society, 2015, 137, 4022-4025.	6.6	278
63	The Relationship between Structural and Electrical Characteristics in PerylenecarboxydiimideâEBased Nanoarchitectures. Advanced Functional Materials, 2015, 25, 2501-2510.	7.8	25
64	Unraveling the Role of Substrates on Interface Energetics and Morphology of PCDTBT:PC₇₀BM Bulk Heterojunction. Advanced Materials Interfaces, 2015, 2, 1500095.	1.9	8
65	Charge-transfer crystallites as molecular electrical dopants. Nature Communications, 2015, 6, 8560.	5.8	317
66	Tracking the formation of methylammonium lead triiodide perovskite. Applied Physics Letters, 2015, 107, .	1.5	73
67	Vertical Bonding Distances Impact Organic-Metal Interface Energetics. Springer Series in Materials Science, 2015, , 89-107.	0.4	6
68	Seleno groups control the energy-level alignment between conjugated organic molecules and metals. Journal of Chemical Physics, 2014, 140, 014705.	1.2	11
69	Molecular StructureâEDependent Charge Injection and Doping Efficiencies of Organic Semiconductors: Impact of Side Chain Substitution. Advanced Materials Interfaces, 2014, 1, 1300128.	1.9	22
70	HATCN-based Charge Recombination Layers as Effective Interconnectors for Tandem Organic Solar Cells. ACS Applied Materials & Interfaces, 2014, 6, 15604-15609.	4.0	12
71	Pentacene on Ag(111): Correlation of Bonding Distance with Intermolecular Interaction and Order. ACS Applied Materials & Interfaces, 2013, 5, 9377-9381.	4.0	25
72	Charged and metallic molecular monolayers through surface-induced aromatic stabilization. Nature Chemistry, 2013, 5, 187-194.	6.6	187

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73	Impact of Oxygen Vacancy on Energy-Level Alignment at MoO_x/Organic Interfaces. Applied Physics Express, 2013, 6, 095701.	1.1	36
74	Exploring the bonding of large hydrocarbons on noble metals: Diindoperylene on Cu(111), Ag(111), and Au(111). Physical Review B, 2013, 87, .	1.1	49
75	Intermolecular Hybridization Governs Molecular Electrical Doping. Physical Review Letters, 2012, 108, 035502.	2.9	178
76	Crystallisation kinetics in thin films of dihexyl-terthiophene: the appearance of polymorphic phases. RSC Advances, 2012, 2, 4404.	1.7	64
77	Accessing Surface Brillouin Zone and Band Structure of Picene Single Crystals. Physical Review Letters, 2012, 108, 226401.	2.9	55
78	Epitaxial Growth of Ï€-Stacked Perfluoropentacene on Graphene-Coated Quartz. ACS Nano, 2012, 6, 10874-10883.	7.3	108
79	Electricâ€Fieldâ€Assisted Charge Generation and Separation Process in Transition Metal Oxideâ€Based Interconnectors for Tandem Organic Lightâ€Emitting Diodes. Advanced Functional Materials, 2012, 22, 600-608.	7.8	115
80	Charge Reorganization Energy and Small Polaron Binding Energy of Rubrene Thin Films by Ultraviolet Photoelectron Spectroscopy. Advanced Materials, 2012, 24, 901-905.	11.1	65
81	Formation of intra-island grain boundaries in pentacene monolayers. Physical Chemistry Chemical Physics, 2011, 13, 21102.	1.3	6
82	Impact of Nitrogen Substitution and Molecular Orientation on the Energy-Level Alignment of Heteroacene Films. Journal of Physical Chemistry C, 2011, 115, 15502-15508.	1.5	12
83	Structure Solution of the 6,13-Pentacenequinone Surface-Induced Polymorph by Combining X-ray Diffraction Reciprocal-Space Mapping and Theoretical Structure Modeling. Crystal Growth and Design, 2011, 11, 600-606.	1.4	44
84	Design of Organic Semiconductors from Molecular Electrostaticsâ€. Chemistry of Materials, 2011, 23, 359-377.	3.2	193
85	Impact of alkyl side chains at self-assembly, electronic structure and charge arrangement in sexithiophene thin films. Organic Electronics, 2011, 12, 903-910.	1.4	18
86	Orientational Ordering of Nonplanar Phthalocyanines on Cu(111): Strength and Orientation of the Electric Dipole Moment. Physical Review Letters, 2011, 106, 156102.	2.9	48
87	Influence of intramolecular polar bonds on interface energetics in perfluoro-pentacene on Ag(111). Physical Review B, 2010, 81, .	1.1	65
88	Site-Specific Geometric and Electronic Relaxations at Organic-Metal Interfaces. Physical Review Letters, 2010, 105, 046103.	2.9	48
89	Phase-separation and mixing in thin films of co-deposited rod-like conjugated molecules. Journal of Materials Chemistry, 2010, 20, 4055.	6.7	31
90	Highest-Occupied-Molecular-Orbital Band Dispersion of Rubrene Single Crystals as Observed by Angle-Resolved Ultraviolet Photoelectron Spectroscopy. Physical Review Letters, 2010, 104, 156401.	2.9	189

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91	Controlling energy level offsets in organic/organic heterostructures using intramolecular polar bonds. Applied Physics Letters, 2009, 94, .	1.5	57
92	Interdiffusion of molecular acceptors through organic layers to metal substrates mimics doping-related energy level shifts. Applied Physics Letters, 2009, 95, 093305.	1.5	45
93	The morphology of organic nanocolumn arrays: Amorphous versus crystalline solids. Journal of Materials Research, 2009, 24, 1492-1497.	1.2	6
94	Intrinsic Surface Dipoles Control the Energy Levels of Conjugated Polymers. Advanced Functional Materials, 2009, 19, 3874-3879.	7.8	64
95	Electronic non-equilibrium conditions at C60â€“pentacene heterostructures. Journal of Electron Spectroscopy and Related Phenomena, 2009, 174, 40-44.	0.8	13
96	PTCDA on Au(111), Ag(111) and Cu(111): Correlation of interface charge transfer to bonding distance. Organic Electronics, 2008, 9, 111-118.	1.4	220
97	Orientation-dependent ionization energies and interface dipoles in ordered molecular assemblies. Nature Materials, 2008, 7, 326-332.	13.3	564
98	Adsorption-Induced Intramolecular Dipole: Correlating Molecular Conformation and Interface Electronic Structure. Journal of the American Chemical Society, 2008, 130, 7300-7304.	6.6	152
99	Structural Order in Perfluoropentacene Thin Films and Heterostructures with Pentacene. Langmuir, 2008, 24, 7294-7298.	1.6	85
100	Tuning the Ionization Energy of Organic Semiconductor Films: The Role of Intramolecular Polar Bonds. Journal of the American Chemical Society, 2008, 130, 12870-12871.	6.6	152
101	Structural and electronic properties of pentacene-fullerene heterojunctions. Journal of Applied Physics, 2008, 104, .	1.1	97
102	Vacuum sublimed Î±,Ï‰-dihexylsexithiophene thin films: Correlating electronic structure and molecular orientation. Journal of Applied Physics, 2008, 104, 033717.	1.1	19
103	Molecular chains and carpets of sexithiophenes onAu(111). Physical Review B, 2007, 76, .	1.1	48
104	Internal Structure of Nanoporous TiO2/Polyion Thin Films Prepared by Layer-by-Layer Deposition. Langmuir, 2007, 23, 9860-9865.	1.6	20
105	Impact of Bidirectional Charge Transfer and Molecular Distortions on the Electronic Structure of a Metal-Organic Interface. Physical Review Letters, 2007, 99, 256801.	2.9	206
106	Impact of low 6,13-pentacenequinone concentration on pentacene thin film growth. Applied Physics Letters, 2007, 91, 051919.	1.5	33
107	Spontaneous charge transfer at organic-organic homointerfaces to establish thermodynamic equilibrium. Applied Physics Letters, 2007, 90, 122113.	1.5	24
108	Sub-nanometer Control of the Interlayer Spacing in Thin Films of Intercalated Rodlike Conjugated Molecules. Journal of Physical Chemistry B, 2007, 111, 14097-14101.	1.2	21

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109	The Effect of Fluorination on Pentacene/Gold Interface Energetics and Charge Reorganization Energy. Advanced Materials, 2007, 19, 112-116.	11.1	139
110	Weak Charge Transfer between an Acceptor Molecule and Metal Surfaces Enabling Organic/Metal Energy Level Tuning. Journal of Physical Chemistry B, 2006, 110, 21069-21072.	1.2	35
111	Influence of alkyl chain substitution on sexithienyl-metal interface morphology and energetics. Applied Physics Letters, 2006, 88, 203109.	1.5	24
112	Morphology, interfacial electronic structure, and optical properties of oligothiophenes grown onZnSe(100)by molecular beam deposition. Physical Review B, 2006, 73, .	1.1	9
113	Tuning the hole injection barrier height at organic/metal interfaces with (sub-) monolayers of electron acceptor molecules. Applied Physics Letters, 2005, 87, 101905.	1.5	52
114	Optimized Hole Injection with Strong Electron Acceptors at Organic-Metal Interfaces. Physical Review Letters, 2005, 95, 237601.	2.9	248