BjÃ¶rn LÃ¼ssem

List of Publications by Year
in descending order

#	Article	IF	Citations
1	White organic light-emitting diodes with fluorescent tube efficiency. Nature, 2009, 459, 234-238.	27.8	3,172
2	White organic light-emitting diodes: Status and perspective. Reviews of Modern Physics, 2013, 85, 1245-1293.	45.6	540
3	Degradation Mechanisms and Reactions in Organic Light-Emitting Devices. Chemical Reviews, 2015, 115, 8449-8503.	47.7	519
4	Doping of organic semiconductors. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 9-43.	1.8	500
5	Doped Organic Transistors. Chemical Reviews, 2016, 116, 13714-13751.	47.7	477
6	Quantification of energy loss mechanisms in organic light-emitting diodes. Applied Physics Letters, 2010, 97, .	3.3	302
7	Efficiency and rate of spontaneous emission in organic electroluminescent devices. Physical Review B, 2012, 85, .	3.2	254
8	Color in the Corners: ITOâ€‘Free White OLEDs with Angular Color Stability. Advanced Materials, 2013, 25, 4006-4013.	21.0	241
9	Top-emitting organic light-emitting diodes. Optics Express, 2011, 19, A1250.	3.4	173
10	Doped organic transistors operating in the inversion and depletion regime. Nature Communications, 2013, 4, 2775.	12.8	164
11	Fermi level shift and doping efficiency in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>p</mml:mi></mml:math>-doped small molecule organic semiconductors: A photoelectron spectroscopy and theoretical study. Physical Review B, 2012, 86, .	3.2	152
12	Nano-particle based scattering layers for optical efficiency enhancement of organic light-emitting diodes and organic solar cells. Journal of Applied Physics, 2013, 113, .	2.5	147
13	Molecular-scale simulation of electroluminescence in a multilayer white organic light-emitting diode. Nature Materials, 2013, 12, 652-658.	27.5	146
14	Doped Organic Semiconductors: Trapâ€‘Filling, Impurity Saturation, and Reserve Regimes. Advanced Functional Materials, 2015, 25, 2701-2707.	14.9	138
15	Highly Efficient White Top-Emitting Organic Light-Emitting Diodes Comprising Laminated Microlens Films. Nano Letters, 2012, 12, 424-428.	9.1	136
16	Photoelectron spectroscopy study of systematically varied doping concentrations in an organic semiconductor layer using a molecular p-dopant. Journal of Applied Physics, 2009, 106, .	2.5	128
17	Chemical degradation mechanisms of highly efficient blue phosphorescent emitters used for organic light emitting diodes. Organic Electronics, 2013, 14, 115-123.	2.6	127
18	Comparing the emissive dipole orientation of two similar phosphorescent green emitter molecules in highly efficient organic light-emitting diodes. Applied Physics Letters, 2012, 101, .	3.3	124

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19	Analysis of chemical degradation mechanism within sky blue phosphorescent organic light emitting diodes by laser-desorption/ionization time-of-flight mass spectrometry. Organic Electronics, 2011, 12, 341-347.	2.6	118
20	Efficiency and Stability of p-i-n Type Organic Light Emitting Diodes for Display and Lighting Applications. Proceedings of the IEEE, 2009, 97, 1606-1626.	21.3	110
21	Top-emitting organic light-emitting diodes: Influence of cavity design. Applied Physics Letters, 2010, 97, .	3.3	106
22	Structural phase transition in pentacene caused by molecular doping and its effect on charge carrier mobility. Organic Electronics, 2012, 13, 58-65.	2.6	105
23	Storage of charge carriers on emitter molecules in organic light-emitting diodes. Physical Review B, 2012, 86, .	3.2	98
24	High Mobility Nâ€Type Transistors Based on Solutionâ€Sheared Doped 6,13â€Bis(triisopropylsilylethynyl)pentacene Thin Films. Advanced Materials, 2013, 25, 4663-4667.	21.0	97
25	Improved Highâ€Brightness Efficiency of Phosphorescent Organic LEDs Comprising Emitter Molecules with Small Permanent Dipole Moments. Advanced Materials, 2010, 22, 3189-3193.	21.0	82
26	Highly efficient white organic light-emitting diodes based on fluorescent blue emitters. Journal of Applied Physics, 2010, 108, .	2.5	78
27	Highâ€Performance Vertical Organic Transistors. Small, 2013, 9, 3670-3677.	10.0	77
28	Novel Approach for Alternating Current (AC)â€Driven Organic Lightâ€Emitting Devices. Advanced Functional Materials, 2012, 22, 210-217.	14.9	76
29	White top-emitting organic light-emitting diodes with forward directed emission and high color quality. Organic Electronics, 2010, 11, 1676-1682.	2.6	67
30	Pentacene Schottky diodes studied by impedance spectroscopy: Doping properties and trap response. Physical Review B, 2013, 88, .	3.2	65
31	Organic Zener Diodes: Tunneling across the Gap in Organic Semiconductor Materials. Nano Letters, 2010, 10, 4929-4934.	9.1	64
32	Finding the equilibrium of organic electrochemical transistors. Nature Communications, 2020, 11, 2515.	12.8	61
33	The origin of faceting of ultraflat gold films epitaxially grown on mica. Applied Surface Science, 2005, 249, 197-202.	6.1	57
34	A New Phase of the c(4 Ã— 2) Superstructure of Alkanethiols Grown by Vapor Phase Deposition on Gold. Langmuir, 2005, 21, 5256-5258.	3.5	56
35	Vertical organic transistors. Journal of Physics Condensed Matter, 2015, 27, 443003.	1.8	56
36	Investigation of C60F36 as low-volatility <i>p</i>-dopant in organic optoelectronic devices. Journal of Applied Physics, 2011, 109, .	2.5	55

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37	Measurement of triplet exciton diffusion in organic light-emitting diodes. Physical Review B, 2010, 81, .	3.2	54
38	STM Study of Mixed Alkanethiol/Biphenylthiol Self-Assembled Monolayers on Au(111). Langmuir, 2006, 22, 3021-3027.	3.5	53
39	Improvement of voltage and charge balance in inverted top-emitting organic electroluminescent diodes comprising doped transport layers by thermal annealing. Applied Physics Letters, 2011, 98, .	3.3	53
40	Contact Resistance Effects in Highly Doped Organic Electrochemical Transistors. Advanced Materials, 2016, 28, 8766-8770.	21.0	50
41	Resistive switching of rose bengal devices: A molecular effect?. Journal of Applied Physics, 2006, 100, 094504.	2.5	48
42	Influence of the hole blocking layer on blue phosphorescent organic light-emitting devices using 3,6-di(9-carbazolyl)-9-(2-ethylhexyl)carbazole as host material. Applied Physics Letters, 2010, 96, .	3.3	48
43	Singlet exciton diffusion length in organic light-emitting diodes. Physical Review B, 2012, 85, .	3.2	48
44	Passivation of Molecular nâ€Doping: Exploring the Limits of Air Stability. Advanced Functional Materials, 2016, 26, 3730-3737.	14.9	46
45	Electroresponsive Ionic Liquid Crystal Elastomers. Macromolecular Rapid Communications, 2019, 40, e1900299.	3.9	45
46	Tuning the Transconductance of Organic Electrochemical Transistors. Advanced Functional Materials, 2021, 31, 2004939.	14.9	45
47	Organic light-emitting diodes for lighting: High color quality by controlling energy transfer processes in host-guest-systems. Journal of Applied Physics, 2012, 111, 033102.	2.5	44
48	Feel the Heat: Nonlinear Electrothermal Feedback in Organic LEDs. Advanced Functional Materials, 2014, 24, 3367-3374.	14.9	44
49	Outcoupling efficiency in small-molecule OLEDs: from theory to experiment. Proceedings of SPIE, 2010, , .	0.8	42
50	Role of oxygen-bonds in the degradation process of phosphorescent organic light emitting diodes. Applied Physics Letters, 2011, 99, .	3.3	42
51	High brightness alternating current electroluminescence with organic light emitting material. Applied Physics Letters, 2012, 100, 103307.	3.3	42
52	An all C60 vertical transistor for high frequency and high current density applications. Applied Physics Letters, 2012, 101, .	3.3	42
53	Organic electrochemical transistors â€" from device models to a targeted design of materials. Journal of Materials Chemistry C, 2021, 9, 9761-9790.	5.5	42
54	Quantitative allocation of Bragg scattering effects in highly efficient OLEDs fabricated on periodically corrugated substrates. Optics Express, 2013, 21, 16319.	3.4	40

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55	Molecular doping for control of gate bias stress in organic thin film transistors. Applied Physics Letters, 2014, 104, 013507.	3.3	40
56	Self-Heating, Bistability, and Thermal Switching in Organic Semiconductors. Physical Review Letters, 2013, 110, 126601.	7.8	39
57	Hydrofluoroethers as heat-transfer fluids for OLEDs: Operational range, stability, and efficiency improvement. Organic Electronics, 2012, 13, 356-360.	2.6	37
58	Quantitative description of charge-carrier transport in a white organic light-emitting diode. Physical Review B, 2011, 84, .	3.2	36
59	Reduced contact resistance in top-contact organic field-effect transistors by interface contact doping. Applied Physics Letters, 2016, 108, .	3.3	36
60	Investigation of triplet harvesting and outcoupling efficiency in highly efficient two-color hybrid white organic light-emitting diodes. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 1467-1475.	1.8	35
61	Color-stable, ITO-free white organic light-emitting diodes with enhanced efficiency using solution-processed transparent electrodes and optical outcoupling layers. Organic Electronics, 2014, 15, 1028-1034.	2.6	35
62	Laser desorption/ionization time-of-flight mass spectrometry: A predictive tool for the lifetime of organic light emitting devices. Applied Physics Letters, 2009, 94, 043314.	3.3	31
63	Influence of organic capping layers on the performance of transparent organic light-emitting diodes. Optics Letters, 2011, 36, 1443.	3.3	31
64	Reaching saturation in patterned source vertical organic field effect transistors. Journal of Applied Physics, 2017, 121, .	2.5	31
65	Quantification of deep hole-trap filling by molecular p-doping: Dependence on the host material purity. Organic Electronics, 2013, 14, 2348-2352.	2.6	30
66	Effect of trap states on the electrical doping of organic semiconductors. Organic Electronics, 2014, 15, 16-21.	2.6	30
67	Advanced Organic Permeableâ€Base Transistor with Superior Performance. Advanced Materials, 2015, 27, 7734-7739.	21.0	30
68	Enhancing the efficiency of alternating current driven organic light-emitting devices by optimizing the operation frequency. Organic Electronics, 2013, 14, 809-813.	2.6	29
69	Ultra-bright alternating current organic electroluminescence. Organic Electronics, 2012, 13, 1589-1593.	2.6	28
70	Direct structuring of C60 thin film transistors by photo-lithography under ambient conditions. Organic Electronics, 2012, 13, 506-513.	2.6	28
71	Organic pin-diodes approaching ultra-high-frequencies. Organic Electronics, 2012, 13, 1114-1120.	2.6	28
72	White top-emitting organic light-emitting diodes employing a heterostructure of down-conversion layers. Organic Electronics, 2011, 12, 2126-2130.	2.6	27

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73	Controlled formation of charge depletion zones by molecular doping in organic pin-diodes and its description by the Mott-Schottky relation. Journal of Applied Physics, 2012, 111, .	2.5	27
74	Systematic investigation of transparent organic light-emitting diodes depending on top metal electrode thickness. Organic Electronics, 2011, 12, 1383-1388.	2.6	26
75	Chemical degradation processes of highly stable red phosphorescent organic light emitting diodes. Organic Electronics, 2012, 13, 1900-1907.	2.6	26
76	Tuning charge carrier transport and optical birefringence in liquid-crystalline thin films: A new design space for organic light-emitting diodes. Scientific Reports, 2018, 8, 699.	3.3	26
77	Lambertian white top-emitting organic light emitting device with carbon nanotube cathode. Journal of Applied Physics, 2012, 112, .	2.5	24
78	Analysis of the external and internal quantum efficiency of multi-emitter, white organic light emitting diodes. Applied Physics Letters, 2012, 101, 143304.	3.3	24
79	Chemical changes on the green emitter tris(8-hydroxy-quinolinato)aluminum during device aging of p-i-n-structured organic light emitting diodes. Applied Physics Letters, 2009, 95, 183309.	3.3	22
80	Comparison of ultraviolet- and charge-induced degradation phenomena in blue fluorescent organic light emitting diodes. Applied Physics Letters, 2010, 97, .	3.3	22
81	Bidirectional operation of vertical organic triodes. Journal of Applied Physics, 2012, 111, 044507.	2.5	22
82	<i>p</i>-Channel Field-Effect Transistors Based on C₆₀ Doped with Molybdenum Trioxide. ACS Applied Materials & Interfaces, 2013, 5, 2337-2341.	8.0	22
83	Functionalized p-dopants as self-assembled monolayers for enhanced charge carrier injection in organic electronic devices. Organic Electronics, 2014, 15, 654-660.	2.6	19
84	Engineering Blue Fluorescent Bulk Emitters for OLEDs: Triplet Harvesting by Green Phosphors. Chemistry of Materials, 2014, 26, 2414-2426.	6.7	19
85	Organic Electrochemical Transistors Based on Room Temperature Ionic Liquids: Performance and Stability. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1800631.	1.8	19
86	Rectangular (3 Ã— 2âˆš3) Superlattice of a Dodecanethiol Self-Assembled Monolayer on Au(111) Observed by Ultra-High-Vacuum Scanning Tunneling Microscopy. Journal of Physical Chemistry B, 2005, 109, 11424-11426.	2.6	18
87	Molecular structure of ferrocenethiol islands embedded into alkanethiol self-assembled monolayers by UHV-STM. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 1448-1452.	1.8	18
88	Electrical and Structural Characterization of Biphenylethanethiol SAMs. Journal of Physical Chemistry C, 2007, 111, 6392-6397.	3.1	18
89	Highly efficient bi-directional organic light-emitting diodes by strong micro-cavity effects. Applied Physics Letters, 2011, 99, 073303.	3.3	18
90	The Transient Response of Organic Electrochemical Transistors. Advanced Theory and Simulations, 2022, 5, .	2.8	18

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91	Biâ€directional organic lightâ€emitting diodes with nanoparticleâ€enhanced light outcoupling. Laser and Photonics Reviews, 2013, 7, 1079-1087.	8.7	17
92	Single carrier devices with electrical doped layers for the characterization of charge-carrier transport in organic thin-films. Applied Physics Letters, 2010, 97, 013303.	3.3	16
93	Non-volatile organic memory devices comprising SiO2 and C60 showing 104 switching cycles. Applied Physics Letters, 2012, 100, .	3.3	16
94	Selfâ€passivation of molecular nâ€type doping during air exposure using a highly efficient airâ€instable dopant. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 2188-2198.	1.8	16
95	Device Engineering in Organic Electrochemical Transistors toward Multifunctional Applications. ACS Applied Electronic Materials, 2021, 3, 2434-2448.	4.3	16
96	Influence of phosphorescent dopants in organic light-emitting diodes with an organic homojunction. Applied Physics Letters, 2012, 101, .	3.3	15
97	Reverse breakdown behavior in organic pin-diodes comprising C60 and pentacene: Experiment and theory. Organic Electronics, 2013, 14, 193-199.	2.6	15
98	Performance and lifetime of vacuum deposited organic light-emitting diodes: Influence of residual gases present during device fabrication. Organic Electronics, 2014, 15, 3251-3258.	2.6	15
99	Investigation on the origin of the memory effect in metal/organic semiconductor/metal structures. Journal of Applied Physics, 2011, 110, .	2.5	14
100	Minority Currents in n-Doped Organic Transistors. ACS Applied Materials & Interfaces, 2016, 8, 32432-32439.	8.0	14
101	Controlling morphology: A vertical organic transistor with a self-structured permeable base using the bottom electrode as seed layer. Applied Physics Letters, 2015, 107, 033301.	3.3	13
102	Patterning organic transistors by dry-etching: The double layer lithography. Organic Electronics, 2017, 45, 124-130.	2.6	13
103	Increased and balanced light emission of transparent organic light-emitting diodes by enhanced microcavity effects. Optics Letters, 2011, 36, 2931.	3.3	12
104	Efficiency enhancement of top-emitting organic light-emitting diodes using conversion dyes. Journal of Applied Physics, 2011, 110, 083118.	2.5	12
105	Removing the current-limit of vertical organic field effect transistors. Journal of Applied Physics, 2017, 122, .	2.5	12
106	Scaling of Highâ€Performance Organic Permeable Base Transistors. Advanced Electronic Materials, 2019, 5, 1800728.	5.1	12
107	Self Assembly of Mixed Monolayers of Mercaptoundecylferrocene and Undecanethiol studied by STM. Journal of Physics: Conference Series, 2007, 61, 852-855.	0.4	11
108	Coupled plasmonic modes in organic planar microcavities. Applied Physics Letters, 2012, 100, 253301.	3.3	11

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109	Doped Nâ€Type Organic Fieldâ€Effect Transistors Based on Fauxâ€Hawk Fullerene. Advanced Electronic Materials, 2019, 5, 1900109.	5.1	11
110	Photoelectron spectroscopy investigation of thin metal films employed as top contacts in transparent organic solar cells. Thin Solid Films, 2011, 519, 1872-1875.	1.8	10
111	Enhanced and balanced efficiency of white bi-directional organic light-emitting diodes. Optics Express, 2013, 21, 28040.	3.4	10
112	Influence of Injection Barrier on Vertical Organic Field Effect Transistors. ACS Applied Materials & Interfaces, 2022, 14, 7063-7072.	8.0	10
113	Straight-forward control of the degree of micro-cavity effects in organic light-emitting diodes based on a thin striped metal layer. Organic Electronics, 2013, 14, 2444-2450.	2.6	9
114	Organic Junction Fieldâ€Effect Transistor. Advanced Functional Materials, 2014, 24, 1011-1016.	14.9	9
115	Beyond 100% doping efficiency. Nature Materials, 2019, 18, 93-94.	27.5	9
116	Doped bottom-contact organic field-effect transistors. Nanotechnology, 2018, 29, 284001.	2.6	7
117	Ionic liquid crystal elastomers-based flexible organic electrochemical transistors: Effect of director alignment of the solid electrolyte. Applied Physics Reviews, 2022, 9, .	11.3	7
118	46.1: <i>Invited Paper</i>: Exciton Induced Chemical Reactions in Organic Light Emitting Devices. Digest of Technical Papers SID International Symposium, 2009, 40, 681-684.	0.3	6
119	Principle of topography-directed inkjet printing for functional micro-tracks in flexible substrates. Journal of Applied Physics, 2017, 121, 244902.	2.5	6
120	Analytic Device Model of Organic Field-Effect Transistors with Doped Channels. ACS Applied Materials & Interfaces, 2020, 12, 49857-49865.	8.0	6
121	Novel concepts for OLED lighting. Proceedings of SPIE, 2010, , .	0.8	5
122	Highly efficient inverted top-emitting organic electroluminescent devices with doped charge transport layers. Proceedings of SPIE, 2010, , .	0.8	5
123	A high performance liquid chromatography method to determine phenanthroline derivatives used in OLEDs and OSCs. Synthetic Metals, 2012, 162, 1834-1838.	3.9	5
124	Modeling tunnel currents in organic permeable-base transistors. Synthetic Metals, 2019, 252, 82-90.	3.9	5
125	Stability of organic permeable base transistors. Applied Physics Letters, 2019, 115, .	3.3	5
126	Organic Doping at Ultralow Concentrations. Advanced Optical Materials, 2021, 9, 2100089.	7.3	5

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127	A novel printing technique for highly integrated organic devices. Microelectronic Engineering, 2010, 87, 614-619.	2.4	4
128	Combined effects of microcavity and dielectric capping layer on bidirectional organic light-emitting diodes. Optics Letters, 2012, 37, 2007.	3.3	4
129	Organic light-emitting diodes (OLEDs). , 2013, , 508-534.		4
130	Charge trapping in doped organic Zener diodes. Organic Electronics, 2016, 39, 77-84.	2.6	4
131	Vertical Organic Tunnel Field-Effect Transistors. ACS Applied Electronic Materials, 2019, 1, 1506-1516.	4.3	4
132	Suppressing Base Currents in Organic Permeable-Base Transistors by Anodization of the Base Electrode. ACS Applied Electronic Materials, 2019, 1, 1756-1761.	4.3	4
133	Beyond conventional organic transistors: novel approaches with improved performance and stability. Proceedings of SPIE, 2014, , .	0.8	3
134	Top-contact organic electrochemical transistors. AIP Advances, 2022, 12, .	1.3	2
135	Built-in Potential of a Pentacene Pin Homojunction Studied by Ultraviolet Photoemission Spectroscopy. Materials Research Society Symposia Proceedings, 2010, 1270, 1.	0.1	1
136	White organic light-emitting diodes with top-emitting structure for high color quality and forward-directed light emission. Proceedings of SPIE, 2010, , .	0.8	1
137	Highly efficient pin-type OLEDs. , 2013, , 173-191.		1
138	OLEDs: light-emitting thin film thermistors revealing advanced self-heating effects. , 2015, , .		1
139	Organic Electronics and Beyond. Advanced Optical Materials, 2021, 9, 2101108.	7.3	1
140	Quantification of charge carrier density in organic light-emitting diodes by time-resolved electroluminescence. Proceedings of SPIE, 2012, , .	0.8	0
141	Quantifying charge trapping and molecular doping in organic p-i-n diodes. Proceedings of SPIE, 2016, , .	0.8	0
142	Stainless-Steel Antenna on Conductive Substrate for an SHM Sensor System with High Power Demand. Sensors, 2021, 21, 7841.	3.8	0
143	The influence of contact material and flat-band voltage on threshold voltage of organic field-effect transistors. Organic Electronics, 2022, 105, 106483.	2.6	0