Ralf Thomas Weitz

List of Publications by Year
in descending order

84 papers	6,832 citations	117625 34 h-index	74163 75 g-index
86 all docs	86 docs citations	86 times ranked	11519 citing authors

#	Article	IF	Citations
1	A Critical Outlook for the Pursuit of Lower Contact Resistance in Organic Transistors. Advanced Materials, 2022, 34, e2104075.	21.0	53
2	All About the Interface: Do Residual Contaminants at A Highâ€Quality hâ€BN Monolayer Perylene Diimide Interface Cause Charge Trapping?. Advanced Materials Interfaces, 2022, 9, .	3.7	5
3	Subthreshold Swing of 59ÂmV decade^{â^'1} in Nanoscale Flexible Ultralowâ€Voltage Organic Transistors. Advanced Electronic Materials, 2022, 8, .	5.1	18
4	Nanoscopic Electrolyte-Gated Vertical Organic Transistors with Low Operation Voltage and Five Orders of Magnitude Switching Range for Neuromorphic Systems. Nano Letters, 2022, 22, 973-978.	9.1	27
5	All About the Interface: Do Residual Contaminants at A Highâ€Quality hâ€BN Monolayer Perylene Diimide Interface Cause Charge Trapping? (Adv. Mater. Interfaces 10/2022). Advanced Materials Interfaces, 2022, 9, .	3.7	0
6	Spontaneous Gully-Polarized Quantum Hall States in ABA Trilayer Graphene. Nano Letters, 2022, 22, 3317-3322.	9.1	3
7	Ionic liquid gating of single-walled carbon nanotube devices with ultra-short channel length down to 10â€‰nm. Applied Physics Letters, 2021, 118, .	3.3	5
8	Optimizing the plasma oxidation of aluminum gate electrodes for ultrathin gate oxides in organic transistors. Scientific Reports, 2021, 11, 6382.	3.3	19
9	High-Performance Vertical Organic Transistors of Sub-5 nm Channel Length. Nano Letters, 2021, 21, 4430-4436.	9.1	18
10	Charge Traps in Allâ€Inorganic CsPbBr₃ Perovskite Nanowire Fieldâ€Effect Phototransistors. Advanced Electronic Materials, 2021, 7, 2100105.	5.1	12
11	Synthesis of large-area rhombohedral few-layer graphene by chemical vapor deposition on copper. Carbon, 2021, 177, 282-290.	10.3	22
12	Interfacial Synthesis of Layer-Oriented 2D Conjugated Metalâ€“Organic Framework Films toward Directional Charge Transport. Journal of the American Chemical Society, 2021, 143, 13624-13632.	13.7	36
13	Quantum anomalous Hall octet driven by orbital magnetism in bilayer graphene. Nature, 2021, 598, 53-58.	27.8	39
14	Charge transport in semiconducting polymers at the nanoscale. APL Materials, 2021, 9, .	5.1	5
15	Flexible low-voltage high-frequency organic thin-film transistors. Science Advances, 2020, 6, eaaz5156.	10.3	133
16	Locally-triggered hydrophobic collapse induces global interface self-cleaning in van-der-Waals heterostructures at room-temperature. 2D Materials, 2020, 7, 035002.	4.4	4
17	Effect of the Degree of the Gateâ€Dielectric Surface Roughness on the Performance of Bottomâ€Gate Organic Thinâ€Film Transistors. Advanced Materials Interfaces, 2020, 7, 1902145.	3.7	52
18	Anisotropic Strain-Induced Soliton Movement Changes Stacking Order and Band Structure of Graphene Multilayers: Implications for Charge Transport. ACS Applied Nano Materials, 2019, 2, 6067-6075.	5.0	24

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19	Solutionâ€Processed Organic Transistors with Excellent Electrical Stability under Ambient Conditions. Advanced Electronic Materials, 2019, 5, 1900295.	5.1	17
20	Vertical, electrolyte-gated organic transistors show continuous operation in the MAâ€‰cmâ^'2 regime and artificial synaptic behaviour. Nature Nanotechnology, 2019, 14, 579-585.	31.5	128
21	Freely Suspended, van der Waals Bound Organic Nanometerâ€Thin Functional Films: Mechanical and Electronic Characterization. Advanced Materials, 2019, 31, 1808309.	21.0	4
22	Solventâ€“Molecule Interactions Govern Crystal-Habit Selection in Naphthalene Tetracarboxylic Diimides. Chemistry of Materials, 2019, 31, 9691-9698.	6.7	6
23	Dielectricâ€“Semiconductor Interface Limits Charge Carrier Motion at Elevated Temperatures and Large Carrier Densities in a Highâ€Mobility Organic Semiconductor. Advanced Functional Materials, 2019, 29, 1807867.	14.9	16
24	High-Mobility, Ultrathin Organic Semiconducting Films Realized by Surface-Mediated Crystallization. Nano Letters, 2018, 18, 9-14.	9.1	64
25	Energy barriers at grain boundaries dominate charge carrier transport in an electron-conductive organic semiconductor. Scientific Reports, 2018, 8, 14868.	3.3	73
26	Complete Suppression of Bias-Induced Threshold Voltage Shift below 273 K in Solution-Processed High-Performance Organic Transistors. ACS Applied Materials & Interfaces, 2018, 10, 35449-35454.	8.0	20
27	Quantitative Analysis of the Density of Trap States in Semiconductors by Electrical Transport Measurements on Low-Voltage Field-Effect Transistors. Physical Review Applied, 2018, 10, .	3.8	23
28	Presence of Short Intermolecular Contacts Screens for Kinetic Stability in Packing Polymorphs. Journal of the American Chemical Society, 2018, 140, 7519-7525.	13.7	29
29	Microstructural Evolution of the Thin Films of a Donorâ€“Acceptor Semiconducting Polymer Deposited by Meniscus-Guided Coating. Macromolecules, 2018, 51, 4325-4340.	4.8	21
30	Metal-free synthesis of nanocrystalline graphene on insulating substrates by carbon dioxide-assisted chemical vapor deposition. Carbon, 2017, 112, 201-207.	10.3	38
31	Understanding Polymorph Transformations in Coreâ€Chlorinated Naphthalene Diimides and their Impact on Thinâ€Film Transistor Performance. Advanced Functional Materials, 2016, 26, 2357-2364.	14.9	42
32	Highly Efficient and Scalable Separation of Semiconducting Carbon Nanotubes via Weak Field Centrifugation. Scientific Reports, 2016, 6, 26259.	3.3	8
33	Dispersion of Highâ€Purity Semiconducting Arcâ€Discharged Carbon Nanotubes Using Backbone Engineered Diketopyrrolopyrrole (DPP)â€Based Polymers. Advanced Electronic Materials, 2016, 2, 1500299.	5.1	35
34	Direct Uniaxial Alignment of a Donorâ€“Acceptor Semiconducting Polymer Using Single-Step Solution Shearing. ACS Applied Materials & Interfaces, 2016, 8, 9285-9296.	8.0	87
35	Back Cover: Identification of grain boundaries as degradation site in n-channel organic field-effect transistors determined via conductive atomic force microscopy (Phys. Status Solidi RRL 4/2016). Physica Status Solidi - Rapid Research Letters, 2016, 10, .	2.4	0
36	Polymorphism: Understanding Polymorph Transformations in Core-Chlorinated Naphthalene Diimides and their Impact on Thin-Film Transistor Performance (Adv. Funct. Mater. 14/2016). Advanced Functional Materials, 2016, 26, 2395-2395.	14.9	0

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37	Identification of grain boundaries as degradation site in n-channel organic field-effect transistors determined via conductive atomic force microscopy. Physica Status Solidi - Rapid Research Letters, 2016, 10, 339-345.	2.4	9
38	Core-Fluorinated Naphthalene Diimides: Synthesis, Characterization, and Application in n-Type Organic Field-Effect Transistors. Organic Letters, 2016, 18, 456-459.	4.6	52
39	Photo-Cross-Linkable Polymeric Optoelectronics Based on the [2 + 2] Cycloaddition Reaction of Cinnamic Acid. Macromolecules, 2016, 49, 1518-1522.	4.8	16
40	Understanding organic thin-film transistor fabrication based on application-relevant deposition and patterning techniques. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1634-1642.	1.8	3
41	Ionic gel as gate dielectric for the easy characterization of graphene and polymer field-effect transistors and electrochemical resistance modification of graphene. Journal of Applied Physics, 2015, 118, .	2.5	18
42	Electrical Characteristics of Fieldâ€Effect Transistors based on Chemically Synthesized Graphene Nanoribbons. Advanced Electronic Materials, 2015, 1, 1400010.	5.1	32
43	Diketopyrrolopyrrole (DPP)â€Based Donorâ€“Acceptor Polymers for Selective Dispersion of Largeâ€Diameter Semiconducting Carbon Nanotubes. Small, 2015, 11, 2946-2954.	10.0	47
44	Bulk transport and contact limitation of MoS₂ multilayer flake transistors untangled via temperature-dependent transport measurements. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2059-2067.	1.8	6
45	Threshold-Voltage Shifts in Organic Transistors Due to Self-Assembled Monolayers at the Dielectric: Evidence for Electronic Coupling and Dipolar Effects. ACS Applied Materials & Interfaces, 2015, 7, 22775-22785.	8.0	87
46	Materials depth distribution and degradation of a FIrpic based solution-processed blue OLED. Organic Electronics, 2015, 26, 365-370.	2.6	17
47	Separating the impact of oxygen and water on the long-term stability of n-channel perylene diimide thin-film transistors. Organic Electronics, 2015, 26, 340-344.	2.6	26
48	Chemical Vapor Deposition of High Quality Graphene Films from Carbon Dioxide Atmospheres. ACS Nano, 2015, 9, 31-42.	14.6	82
49	Inkjet-printed energy storage device using graphene/polyaniline inks. Journal of Power Sources, 2014, 248, 483-488.	7.8	182
50	Transconductance Fluctuations as a Probe for Interaction-Induced Quantum Hall States in Graphene. Physical Review Letters, 2012, 109, 056602.	7.8	32
51	Crystalline Inverted Membranes Grown on Surfaces by Electrospray Ion Beam Deposition in Vacuum. Advanced Materials, 2012, 24, 2761-2767.	21.0	25
52	Top-Gate ZnO Nanowire Transistors and Integrated Circuits with Ultrathin Self-Assembled Monolayer Gate Dielectric. Nano Letters, 2011, 11, 5309-5315.	9.1	65
53	Oneâ€Dimensional Heterostructures of Singleâ€Walled Carbon Nanotubes and CdSe Nanowires. Small, 2010, 6, 376-380.	10.0	17
54	Graphene rests easy. Nature Nanotechnology, 2010, 5, 699-700.	31.5	46

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55	Logic circuits based on individual semiconducting and metallic carbon-nanotube devices. Nanotechnology, 2010, 21, 475207.	2.6	13
56	Local Compressibility Measurements of Correlated States in Suspended Bilayer Graphene. Physical Review Letters, 2010, 105, 256806.	7.8	142
57	Electronic decoupling of an epitaxial graphene monolayer by gold intercalation. Physical Review B, 2010, 81, .	3.2	214
58	Broken-Symmetry States in Doubly Gated Suspended Bilayer Graphene. Science, 2010, 330, 812-816.	12.6	355
59	Low-voltage metal-gate top-contact organic thin-film transistors and complementary inverters with submicron channel length. , 2009, , .		3
60	Bias stress effect in low-voltage organic thin-film transistors. Applied Physics A: Materials Science and Processing, 2009, 95, 139-145.	2.3	95
61	The Importance of Grain Boundaries for the Time-Dependent Mobility Degradation in Organic Thin-Film Transistors. Chemistry of Materials, 2009, 21, 4949-4954.	6.7	47
62	Low-voltage organic n-channel thin-film transistors based on a core-cyanated perylene tetracarboxylic diimide derivative. Synthetic Metals, 2009, 159, 2362-2364.	3.9	12
63	Fabry-PÃ©rot Resonances in One-Dimensional Plasmonic Nanostructures. Nano Letters, 2009, 9, 2372-2377.	9.1	276
64	Highly Reliable Carbon Nanotube Transistors with Patterned Gates and Molecular Gate Dielectric. Nano Letters, 2009, 9, 1335-1340.	9.1	40
65	Top-gate ZnO nanowire transistors with ultrathin organic gate dielectric. , 2009, , .		0
66	DNA-templated synthesis of ZnO thin layers and nanowires. Nanotechnology, 2009, 20, 365302.	2.6	30
67	Strong pâ€Type Doping of Individual Carbon Nanotubes by Prussian Blue Functionalization. Small, 2008, 4, 1671-1675.	10.0	37
68	Carbon nanotube transistors â€“ chemical functionalization and device characterization. Physica Status Solidi (A) Applications and Materials Science, 2008, 205, 633-646.	1.8	68
69	Plasmonic nanostructures in apertureâ€less scanning nearâ€field optical microscopy (aSNOM). Physica Status Solidi (B): Basic Research, 2008, 245, 2255-2260.	1.5	20
70	E-beam lithography of catalyst patterns for carbon nanotube growth on insulating substrates. Microelectronic Engineering, 2008, 85, 768-773.	2.4	11
71	Contact and edge effects in graphene devices. Nature Nanotechnology, 2008, 3, 486-490.	31.5	658
72	Polymer Nanofibers via Nozzle-Free Centrifugal Spinning. Nano Letters, 2008, 8, 1187-1191.	9.1	193

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73	Organic n-Channel Transistors Based on Core-Cyanated Perylene Carboxylic Diimide Derivatives. Journal of the American Chemical Society, 2008, 130, 4637-4645.	13.7	262
74	Low-Voltage Organic Thin-Film Transistors with Improved Stability and Large Transconductance. Device Research Conference, IEEE Annual, 2007, , .	0.0	0
75	High-Performance Carbon Nanotube Field Effect Transistors with a Thin Gate Dielectric Based on a Self-Assembled Monolayer. Nano Letters, 2007, 7, 22-27.	9.1	102
76	Organic Transistors Based on Di(phenylvinyl)anthracene: Performance and Stability. Advanced Materials, 2007, 19, 3882-3887.	21.0	120
77	Electrochemically modified singleâ€walled carbon nanotubes. Physica Status Solidi (B): Basic Research, 2007, 244, 4021-4025.	1.5	10
78	Growth mechanism of solution-deposited layers of the charge-transfer salt CuDDQ. Physica Status Solidi (B): Basic Research, 2007, 244, 4346-4350.	1.5	5
79	Electronic Transport Properties of Individual Chemically Reduced Graphene Oxide Sheets. Nano Letters, 2007, 7, 3499-3503.	9.1	2,177
80	Organic monolayer dielectric for high-performance carbon nanotube transistors. SPIE Newsroom, 2007, , .	0.1	0
81	New Charge-Transfer Salts for Reversible Resistive Memory Switching. Nano Letters, 2006, 6, 2810-2813.	9.1	39
82	Single-walled carbon nanotube transistors on an ultra-thin gate dielectric. Physica Status Solidi (B): Basic Research, 2006, 243, 3394-3398.	1.5	1
83	Carbon Nanotube Transistorsâ€“ Chemical Functionalisation and Device Characterisation. , 0, , 565-593.		0
84	Manipulation and statistical analysis of the fluid flow of polymer semiconductor solutions during meniscus-guided coating. MRS Bulletin, 0, , 1-14.	3.5	0