

Vitaly Podzorov

List of Publications by Year in descending order

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66
papers

10,027
citations

87888

38
h-index

102487

66
g-index

68
all docs

68
docs citations

68
times ranked

10244
citing authors

#	ARTICLE	IF	CITATIONS
1	Elastomeric Transistor Stamps: Reversible Probing of Charge Transport in Organic Crystals. <i>Science</i> , 2004, 303, 1644-1646.	12.6	1,559
2	Intrinsic Charge Transport on the Surface of Organic Semiconductors. <i>Physical Review Letters</i> , 2004, 93, 086602.	7.8	1,089
3	Critical assessment of charge mobility extraction in FETs. <i>Nature Materials</i> , 2018, 17, 2-7.	27.5	571
4	Organic single-crystal field-effect transistors. <i>Physica Status Solidi A</i> , 2004, 201, 1302-1331.	1.7	516
5	Colloquium: Electronic transport in single-crystal organic transistors. <i>Reviews of Modern Physics</i> , 2006, 78, 973-989.	45.6	509
6	High-mobility field-effect transistors based on transition metal dichalcogenides. <i>Applied Physics Letters</i> , 2004, 84, 3301-3303.	3.3	497
7	Observation of long-range exciton diffusion in highly ordered organic semiconductors. <i>Nature Materials</i> , 2010, 9, 938-943.	27.5	466
8	Charge Carriers in Hybrid Organic-Inorganic Lead Halide Perovskites Might Be Protected as Large Polarons. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 4758-4761.	4.6	456
9	Field-effect transistors on rubrene single crystals with parylene gate insulator. <i>Applied Physics Letters</i> , 2003, 82, 1739-1741.	3.3	431
10	Single-crystal organic field effect transistors with the hole mobility $\sim 48 \text{ cm}^2/\text{Vs}$. <i>Applied Physics Letters</i> , 2003, 83, 3504-3506.	3.3	397
11	Hall Effect in the Accumulation Layers on the Surface of Organic Semiconductors. <i>Physical Review Letters</i> , 2005, 95, 226601.	7.8	356
12	Chromophore Fluorination Enhances Crystallization and Stability of Soluble Anthradithiophene Semiconductors. <i>Journal of the American Chemical Society</i> , 2008, 130, 2706-2707.	13.7	324
13	Ultra-flexible solution-processed organic field-effect transistors. <i>Nature Communications</i> , 2012, 3, 1259.	12.8	274
14	Electronic functionalization of the surface of organic semiconductors with self-assembled monolayers. <i>Nature Materials</i> , 2008, 7, 84-89.	27.5	195
15	Organic single crystals: Addressing the fundamentals of organic electronics. <i>MRS Bulletin</i> , 2013, 38, 15-24.	3.5	183
16	Photoinduced Charge Transfer across the Interface between Organic Molecular Crystals and Polymers. <i>Physical Review Letters</i> , 2005, 95, 016602.	7.8	118
17	Ultrafast carrier dynamics in pentacene, functionalized pentacene, tetracene, and rubrene single crystals. <i>Applied Physics Letters</i> , 2006, 88, 162101.	3.3	107
18	Doping of Conjugated Polythiophenes with Alkyl Silanes. <i>Advanced Functional Materials</i> , 2009, 19, 1906-1911.	14.9	107

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19	Modification of Electronic Properties of Graphene with Self-Assembled Monolayers. Nano Letters, 2010, 10, 2427-2432.	9.1	106
20	Giant 1/f noise in perovskite manganites: Evidence of the percolation threshold. Physical Review B, 2000, 61, R3784-R3787.	3.2	103
21	Intrinsic Charge Transport across Phase Transitions in Hybrid Organo-Inorganic Perovskites. Advanced Materials, 2016, 28, 6509-6514.	21.0	103
22	Nanoscale Surface Morphology and Rectifying Behavior of a Bulk Single-Crystal Organic Semiconductor. Advanced Materials, 2006, 18, 1552-1556.	21.0	93
23	Primary Photoexcitations and the Origin of the Photocurrent in Rubrene Single Crystals. Physical Review Letters, 2006, 96, 056604.	7.8	83
24	Surface Potential Mapping of SAM-Functionalized Organic Semiconductors by Kelvin Probe Force Microscopy. Advanced Materials, 2011, 23, 502-507.	21.0	78
25	Bias Stress Effect in Air-Gap Organic Field-Effect Transistors. Advanced Materials, 2012, 24, 2679-2684.	21.0	70
26	Trap healing and ultralow-noise Hall effect at the surface of organic semiconductors. Nature Materials, 2013, 12, 1125-1129.	27.5	66
27	n-type charge transport in heavily p-doped polymers. Nature Materials, 2021, 20, 518-524.	27.5	66
28	Electrostatic modification of infrared response in gated structures based on VO ₂ . Applied Physics Letters, 2008, 92, .	3.3	60
29	The Origin of a 650 nm Photoluminescence Band in Rubrene. Advanced Materials, 2011, 23, 5370-5375.	21.0	59
30	Tuning the metal-insulator crossover and magnetism in SrRuO ₃ by ionic gating. Scientific Reports, 2014, 4, 6604.	3.3	52
31	Light-induced switching in back-gated organic transistors with built-in conduction channel. Applied Physics Letters, 2004, 85, 6039-6041.	3.3	51
32	Hydrostatic pressure dependence of charge carrier transport in single-crystal rubrene devices. Applied Physics Letters, 2005, 86, 123501.	3.3	49
33	High-Resolution ac Measurements of the Hall Effect in Organic Field-Effect Transistors. Physical Review Applied, 2016, 5, .	3.8	45
34	Photon-Assisted Oxygen Diffusion and Oxygen-Related Traps in Organic Semiconductors. Advanced Materials, 2011, 23, 981-985.	21.0	44
35	Dynamic character of charge transport parameters in disordered organic semiconductor field-effect transistors. Physical Chemistry Chemical Physics, 2012, 14, 14142.	2.8	43
36	Long and winding polymeric roads. Nature Materials, 2013, 12, 947-948.	27.5	41

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37	Vacuum Lamination Approach to Fabrication of High-Performance Single-Crystal Organic Field-Effect Transistors. <i>Advanced Materials</i> , 2011, 23, 5807-5811.	21.0	40
38	Accurate Extraction of Charge Carrier Mobility in 4-Probe Field-Effect Transistors. <i>Advanced Functional Materials</i> , 2018, 28, 1707105.	14.9	40
39	Hall Effect in Polycrystalline Organic Semiconductors: The Effect of Grain Boundaries. <i>Advanced Functional Materials</i> , 2020, 30, 1903617.	14.9	37
40	A Large Anisotropic Enhancement of the Charge Carrier Mobility of Flexible Organic Transistors with Strain: A Hall Effect and Raman Study. <i>Advanced Science</i> , 2020, 7, 1901824.	11.2	37
41	Oxygen Incorporation in Rubrene Single Crystals. <i>Scientific Reports</i> , 2014, 4, 4753.	3.3	34
42	Use of an Underlayer for Large Area Crystallization of Rubrene Thin Films. <i>Chemistry of Materials</i> , 2017, 29, 6666-6673.	6.7	34
43	Building molecules for a function. <i>Nature Materials</i> , 2010, 9, 616-617.	27.5	32
44	Solution-Processed Crystalline n-Type Organic Transistors Stable against Electrical Stress and Photooxidation. <i>Advanced Functional Materials</i> , 2016, 26, 2365-2370.	14.9	30
45	Investigating the origin of the high photoconductivity of rubrene single crystals. <i>Physical Review B</i> , 2008, 77, .	3.2	28
46	Two-Dimensional Copper Iodide-Based Inorganic-Organic Hybrid Semiconductors: Synthesis, Structures, and Optical and Transport Properties. <i>Chemistry of Materials</i> , 2021, 33, 5317-5325.	6.7	26
47	Quantifying the Energy Barriers and Elucidating the Charge Transport Mechanisms across Interspherulite Boundaries in Solution-Processed Organic Semiconductor Thin Films. <i>Advanced Functional Materials</i> , 2015, 25, 5662-5668.	14.9	24
48	Organic Single Crystals: An Essential Step to New Physics and Higher Performances of Optoelectronic Devices. <i>Advanced Functional Materials</i> , 2016, 26, 2229-2232.	14.9	24
49	Mesoscopic, non-equilibrium fluctuations of inhomogeneous electronic states in manganites. <i>Europhysics Letters</i> , 2001, 55, 411-417.	2.0	22
50	Solution-Grown Rubrene Crystals as Radiation Detecting Devices. <i>IEEE Transactions on Nuclear Science</i> , 2017, 64, 781-788.	2.0	21
51	Electric-field effect on photoluminescence of lead-halide perovskites. <i>Materials Today</i> , 2019, 28, 31-39.	14.2	21
52	Control of molecular doping in conjugated polymers by thermal annealing. <i>Organic Electronics</i> , 2017, 47, 139-146.	2.6	20
53	Infrared signatures of high carrier densities induced in semiconducting poly(3-hexylthiophene) by fluorinated organosilane molecules. <i>Journal of Applied Physics</i> , 2010, 107, 123702.	2.5	19
54	Effect of side chain length on film structure and electron mobility of core-unsubstituted pyromellitic diimides and enhanced mobility of the dibrominated core using the optimized side chain. <i>Journal of Materials Chemistry C</i> , 2015, 3, 3029-3037.	5.5	18

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55	Steady-state and transient photocurrents in rubrene single crystal free-space dielectric transistors. Applied Physics Letters, 2007, 91, .	3.3	16
56	Nanoscale Conducting Channels at the Surface of Organic Semiconductors Formed by Decoration of Molecular Steps with Self-Assembled Molecules. Advanced Functional Materials, 2009, 19, 3726-3730.	14.9	16
57	Polarization-Dependent Photoinduced Bias-Stress Effect in Single-Crystal Organic Field-Effect Transistors. ACS Applied Materials & Interfaces, 2017, 9, 34153-34161.	8.0	16
58	The Origin of Low Contact Resistance in Monolayer Organic Field-Effect Transistors with van der Waals Electrodes. Small Science, 2022, 2, .	9.9	16
59	The Photo-Hall Effect in High-Mobility Organic Semiconductors. Advanced Functional Materials, 2021, 31, 2006178.	14.9	15
60	Two mechanisms of exciton dissociation in rubrene single crystals. Applied Physics Letters, 2010, 96, .	3.3	14
61	Photon Upconversion in Crystalline Rubrene: Resonant Enhancement by an Interband State. Journal of Physical Chemistry C, 2018, 122, 17632-17642.	3.1	14
62	High-Quality Graphene Using Boudouard Reaction. Advanced Science, 2022, 9, e2200217.	11.2	12
63	Experimental Demonstration of Correlated Flux Scaling in Photoconductivity and Photoluminescence of Lead-Halide Perovskites. Physical Review Applied, 2018, 10, .	3.8	11
64	Stable doping of carbon nanotubes via molecular self assembly. Journal of Applied Physics, 2014, 116, .	2.5	7
65	Green Lithography for Delicate Materials. Advanced Functional Materials, 2021, 31, 2101533.	14.9	7
66	Singlet fission dynamics in high quality rubrene single crystals. , 0, , .		0