

Artem A Bakulin

List of Publications by Year in descending order

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110
papers

7,180
citations

76326

40
h-index

54911

84
g-index

113
all docs

113
docs citations

113
times ranked

8870
citing authors

#	ARTICLE	IF	CITATIONS
1	The Role of Driving Energy and Delocalized States for Charge Separation in Organic Semiconductors. <i>Science</i> , 2012, 335, 1340-1344.	12.6	1,022
2	Design rules for minimizing voltage losses in high-efficiency organic solar cells. <i>Nature Materials</i> , 2018, 17, 703-709.	27.5	701
3	Real-Time Observation of Organic Cation Reorientation in Methylammonium Lead Iodide Perovskites. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 3663-3669.	4.6	322
4	Real-time observation of multiexcitonic states in ultrafast singlet fission using coherent 2D electronic spectroscopy. <i>Nature Chemistry</i> , 2016, 8, 16-23.	13.6	308
5	Photogeneration and Ultrafast Dynamics of Excitons and Charges in P3HT/PCBM Blends. <i>Journal of Physical Chemistry C</i> , 2009, 113, 14500-14506.	3.1	304
6	Unequal Partnership: Asymmetric Roles of Polymeric Donor and Fullerene Acceptor in Generating Free Charge. <i>Journal of the American Chemical Society</i> , 2014, 136, 2876-2884.	13.7	235
7	Fine-tuning the Energy Levels of a Nonfullerene Small-molecule Acceptor to Achieve a High Short-circuit Current and a Power Conversion Efficiency over 12% in Organic Solar Cells. <i>Advanced Materials</i> , 2018, 30, 1704904.	21.0	214
8	Water Infiltration in Methylammonium Lead Iodide Perovskite: Fast and Inconspicuous. <i>Chemistry of Materials</i> , 2015, 27, 7835-7841.	6.7	194
9	On the Energetic Dependence of Charge Separation in Low-Band-Gap Polymer/Fullerene Blends. <i>Journal of the American Chemical Society</i> , 2012, 134, 18189-18192.	13.7	180
10	What Controls the Rate of Ultrafast Charge Transfer and Charge Separation Efficiency in Organic Photovoltaic Blends. <i>Journal of the American Chemical Society</i> , 2016, 138, 11672-11679.	13.7	179
11	Impact of Oxygen Vacancy Occupancy on Charge Carrier Dynamics in BiVO ₄ Photoanodes. <i>Journal of the American Chemical Society</i> , 2019, 141, 18791-18798.	13.7	147
12	Lanthanide-doped inorganic nanoparticles turn molecular triplet excitons bright. <i>Nature</i> , 2020, 587, 594-599.	27.8	135
13	Lead Telluride Quantum Dot Solar Cells Displaying External Quantum Efficiencies Exceeding 120%. <i>Nano Letters</i> , 2015, 15, 7987-7993.	9.1	130
14	Electronic defects in metal oxide photocatalysts. <i>Nature Reviews Materials</i> , 2022, 7, 503-521.	48.7	129
15	Hydrophobic Molecules Slow Down the Hydrogen-Bond Dynamics of Water. <i>Journal of Physical Chemistry A</i> , 2011, 115, 1821-1829.	2.5	127
16	Hydrophobic Solvation: A 2D IR Spectroscopic Inquest. <i>Accounts of Chemical Research</i> , 2009, 42, 1229-1238.	15.6	121
17	Charge-Transfer State Dynamics Following Hole and Electron Transfer in Organic Photovoltaic Devices. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 209-215.	4.6	120
18	Ultrafast Intraband Spectroscopy of Hot-Carrier Cooling in Lead-Halide Perovskites. <i>ACS Energy Letters</i> , 2018, 3, 2199-2205.	17.4	119

#	ARTICLE	IF	CITATIONS
19	Ultrafast Hole-Transfer Dynamics in Polymer/PCBM Bulk Heterojunctions. <i>Advanced Functional Materials</i> , 2010, 20, 1653-1660.	14.9	117
20	Ultrafast Energy Transfer in Water ⁺ AOT Reverse Micelles. <i>Journal of Physical Chemistry B</i> , 2007, 111, 14193-14207.	2.6	114
21	Organic Cation Rotation and Immobilization in Pure and Mixed Methylammonium Lead-Halide Perovskites. <i>Journal of the American Chemical Society</i> , 2017, 139, 4068-4074.	13.7	114
22	In situ observation of picosecond polaron self-localisation in Fe_2O_3 photoelectrochemical cells. <i>Nature Communications</i> , 2019, 10, 3962.	12.8	93
23	Dynamics of Water Confined in Reversed Micelles: Multidimensional Vibrational Spectroscopy Study. <i>Journal of Physical Chemistry B</i> , 2013, 117, 15545-15558.	2.6	82
24	Ultrafast Spectroscopy with Photocurrent Detection: Watching Excitonic Optoelectronic Systems at Work. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 250-258.	4.6	81
25	Charge Trapping Dynamics in PbS Colloidal Quantum Dot Photovoltaic Devices. <i>ACS Nano</i> , 2013, 7, 8771-8779.	14.6	78
26	Mode-selective vibrational modulation of charge transport in organic electronic devices. <i>Nature Communications</i> , 2015, 6, 7880.	12.8	72
27	Rotational Cation Dynamics in Metal Halide Perovskites: Effect on Phonons and Material Properties. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 5987-5997.	4.6	68
28	Direct Observation of Photoinduced Bound Charge-Pair States at an Organic-Inorganic Semiconductor Interface. <i>Physical Review Letters</i> , 2012, 108, 246605.	7.8	66
29	Ultrafast Charge Photogeneration Dynamics in Ground-State Charge-Transfer Complexes Based on Conjugated Polymers. <i>Journal of Physical Chemistry B</i> , 2008, 112, 13730-13737.	2.6	60
30	Orientation dependent molecular electrostatics drives efficient charge generation in homojunction organic solar cells. <i>Nature Communications</i> , 2020, 11, 4617.	12.8	60
31	Correlating Charge-Transfer State Lifetimes with Material Energetics in Polymer:Non-Fullerene Acceptor Organic Solar Cells. <i>Journal of the American Chemical Society</i> , 2021, 143, 7599-7603.	13.7	59
32	Suppressing Recombination in Polymer Photovoltaic Devices via Energy-Level Cascades. <i>Advanced Materials</i> , 2013, 25, 4131-4138.	21.0	57
33	Dynamics of Intraband and Interband Auger Processes in Colloidal Core-Shell Quantum Dots. <i>ACS Nano</i> , 2015, 9, 10366-10376.	14.6	52
34	Materials, photophysics and device engineering of perovskite light-emitting diodes. <i>Reports on Progress in Physics</i> , 2021, 84, 046401.	20.1	52
35	Weak charge-transfer complexes based on conjugated polymers for plastic solar cells. <i>Synthetic Metals</i> , 2004, 147, 221-225.	3.9	49
36	Field-Assisted Exciton Dissociation in Highly Efficient PffBT4T-2OD:Fullerene Organic Solar Cells. <i>Chemistry of Materials</i> , 2018, 30, 2660-2667.	6.7	49

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37	Efficient non-fullerene organic solar cells employing sequentially deposited donor-acceptor layers. <i>Journal of Materials Chemistry A</i> , 2018, 6, 18225-18233.	10.3	49
38	Donor-acceptor interface modification by zwitterionic conjugated polyelectrolytes in polymer photovoltaics. <i>Energy and Environmental Science</i> , 2013, 6, 1589.	30.8	46
39	Reduced Carrier Recombination in PbS - CuInS ₂ Quantum Dot Solar Cells. <i>Scientific Reports</i> , 2015, 5, 10626.	3.3	44
40	Charge Separation, Band-Bending, and Recombination in WO ₃ Photoanodes. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 5395-5401.	4.6	44
41	Properties of MEH-PPV films prepared by slow solvent evaporation. <i>Synthetic Metals</i> , 2004, 147, 287-291.	3.9	40
42	Nonfullerene-Based Organic Photodetectors for Ultrahigh Sensitivity Visible Light Detection. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 48836-48844.	8.0	40
43	Exciton and Charge Carrier Dynamics in Highly Crystalline PTQ10:IDIC Organic Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 2001149.	19.5	40
44	Hot Carrier Dynamics in Perovskite Nanocrystal Solids: Role of the Cold Carriers, Nanoconfinement, and the Surface. <i>Nano Letters</i> , 2020, 20, 2271-2278.	9.1	40
45	Infrared Organic Photodetectors Employing Ultralow Bandgap Polymer and Non-Fullerene Acceptors for Biometric Monitoring. <i>Small</i> , 2022, 18, e2200580.	10.0	39
46	Charge-transfer complexes of conjugated polymers as intermediates in charge photogeneration for organic photovoltaics. <i>Chemical Physics Letters</i> , 2009, 482, 99-104.	2.6	38
47	Improved Performance of ZnO/Polymer Hybrid Photovoltaic Devices by Combining Metal Oxide Doping and Interfacial Modification. <i>Journal of Physical Chemistry C</i> , 2014, 118, 18945-18950.	3.1	36
48	Sequentially Deposited versus Conventional Nonfullerene Organic Solar Cells: Interfacial Trap States, Vertical Stratification, and Exciton Dissociation. <i>Advanced Energy Materials</i> , 2019, 9, 1902145.	19.5	36
49	Selenium-Substituted Non-Fullerene Acceptors: A Route to Superior Operational Stability for Organic Bulk Heterojunction Solar Cells. <i>ACS Nano</i> , 2021, 15, 7700-7712.	14.6	36
50	Femtosecond midinfrared study of aggregation behavior in aqueous solutions of amphiphilic molecules. <i>Journal of Chemical Physics</i> , 2010, 133, 164514.	3.0	32
51	The binding energy and dynamics of charge-transfer states in organic photovoltaics with low driving force for charge separation. <i>Journal of Chemical Physics</i> , 2019, 150, 104704.	3.0	32
52	Defects Healing in Two-Step Deposited Perovskite Solar Cells via Formamidinium Iodide Compensation. <i>ACS Applied Energy Materials</i> , 2020, 3, 3318-3327.	5.1	32
53	Energy Transfer to a Stable Donor Suppresses Degradation in Organic Solar Cells. <i>Advanced Functional Materials</i> , 2020, 30, 1907432.	14.9	32
54	Efficient two-step photogeneration of long-lived charges in ground-state charge-transfer complexes of conjugated polymer doped with fullerene. <i>Physical Chemistry Chemical Physics</i> , 2009, 11, 7324.	2.8	30

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55	Control of charge generation and recombination in ternary polymer/polymer:fullerene photovoltaic blends using amorphous and semi-crystalline copolymers as donors. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 20329-20337.	2.8	30
56	<i>N</i> -Heteroacenes as a New Class of Non-Fullerene Electron Acceptors for Organic Bulk-Heterojunction Photovoltaic Devices. <i>Solar Rrl</i> , 2017, 1, 1700053.	5.8	30
57	Dramatic enhancement of photo-oxidation stability of a conjugated polymer in blends with organic acceptor. <i>Applied Physics Letters</i> , 2008, 92, .	3.3	29
58	Oxygen-Induced Doping as a Degradation Mechanism in Highly Efficient Organic Solar Cells. <i>ACS Applied Energy Materials</i> , 2019, 2, 1943-1950.	5.1	29
59	Improving Charge Separation across a Hybrid Oxide/Polymer Interface by Cs Doping of the Metal Oxide. <i>Advanced Materials Interfaces</i> , 2016, 3, 1500616.	3.7	27
60	Impact of Marginal Exciton Charge-Transfer State Offset on Charge Generation and Recombination in Polymer:Fullerene Solar Cells. <i>ACS Energy Letters</i> , 2019, 4, 2096-2103.	17.4	24
61	On the energetics of bound charge-transfer states in organic photovoltaics. <i>Journal of Materials Chemistry A</i> , 2017, 5, 11949-11959.	10.3	23
62	The effect of ionic composition on acoustic phonon speeds in hybrid perovskites from Brillouin spectroscopy and density functional theory. <i>Journal of Materials Chemistry C</i> , 2018, 6, 3861-3868.	5.5	23
63	Efficient and Tunable Electroluminescence from In Situ Synthesized Perovskite Quantum Dots. <i>Small</i> , 2019, 15, e1804947.	10.0	23
64	Influence of Polymer Aggregation and Liquid Immiscibility on Morphology Tuning by Varying Composition in PffBT4T-2DT/Nonfullerene Organic Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 1903248.	19.5	23
65	Morphology, Temperature, and Field Dependence of Charge Separation in High-Efficiency Solar Cells Based on Alternating Polyquinoxaline Copolymer. <i>Journal of Physical Chemistry C</i> , 2016, 120, 4219-4226.	3.1	22
66	Reconciling models of interfacial state kinetics and device performance in organic solar cells: impact of the energy offsets on the power conversion efficiency. <i>Energy and Environmental Science</i> , 2022, 15, 1256-1270.	30.8	21
67	Field Effect versus Driving Force: Charge Generation in Small-Molecule Organic Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 2002124.	19.5	19
68	Triptycenylnaphenazinothiadiazole as acceptor in organic bulk-heterojunction solar cells. <i>Organic Electronics</i> , 2018, 57, 285-291.	2.6	16
69	Block Junction-Functionalized All-Conjugated Donor-Acceptor Block Copolymers. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 1143-1155.	8.0	16
70	Charge Transfer Complexes of a Conjugated Polymer. <i>Doklady Chemistry</i> , 2004, 398, 204-206.	0.9	15
71	Control of Donor-Acceptor Photophysics through Structural Modification of a Twisting Push-Pull Molecule. <i>Chemistry of Materials</i> , 2019, 31, 6860-6869.	6.7	15
72	Preferred orientations of organic cations at lead-halide perovskite interfaces revealed using vibrational sum-frequency spectroscopy. <i>Materials Horizons</i> , 2020, 7, 1348-1357.	12.2	15

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73	Simultaneous enhancement in open circuit voltage and short circuit current of hybrid organic–inorganic photovoltaics by inorganic interfacial modification. <i>Journal of Materials Chemistry C</i> , 2016, 4, 1111-1116.	5.5	11
74	Control of Geminate Recombination by the Material Composition and Processing Conditions in Novel Polymer: Nonfullerene Acceptor Photovoltaic Devices. <i>Journal of Physical Chemistry A</i> , 2018, 122, 1253-1260.	2.5	10
75	Reduced coupling of water molecules near the surface of reverse micelles. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 19355.	2.8	9
76	Probing charge transfer states at organic and hybrid internal interfaces by photothermal deflection spectroscopy. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 124001.	1.8	9
77	Multipulse Terahertz Spectroscopy Unveils Hot Polaron Photoconductivity Dynamics in Metal-Halide Perovskites. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 8732-8739.	4.6	8
78	Oxygen-induced degradation in AgBiS ₂ nanocrystal solar cells. <i>Nanoscale</i> , 2022, 14, 3020-3030.	5.6	6
79	Kinetic modelling of intraband carrier relaxation in bulk and nanocrystalline lead-halide perovskites. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 17605-17611.	2.8	5
80	All-conjugated donor–acceptor block copolymers featuring a pentafulvenyl-polyisocyanide-acceptor. <i>Polymer Chemistry</i> , 2020, 11, 1852-1859.	3.9	5
81	BN-Substitution in Dithienylpyrenes Prevents Excimer Formation in Solution and in the Solid State. <i>Journal of Physical Chemistry C</i> , 2022, 126, 4563-4576.	3.1	5
82	Ultrafast polarisation spectroscopy of photoinduced charges in a conjugated polymer. <i>Quantum Electronics</i> , 2009, 39, 643-648.	1.0	3
83	Ultrafast infrared spectroscopy reveals intragap states in methylammonium lead iodide perovskite materials. <i>Proceedings of SPIE</i> , 2014, , .	0.8	3
84	Organic Solar Cells: Exciton and Charge Carrier Dynamics in Highly Crystalline PTQ10:IDIC Organic Solar Cells (<i>Adv. Energy Mater.</i> 38/2020). <i>Advanced Energy Materials</i> , 2020, 10, 2070158.	19.5	2
85	Molecular doping of single-walled carbon nanotube transistors: optoelectronic study. , 2016, , .		1
86	Organic Solar Cells: Sequentially Deposited versus Conventional Nonfullerene Organic Solar Cells: Interfacial Trap States, Vertical Stratification, and Exciton Dissociation (<i>Adv. Energy Mater.</i> 47/2019). <i>Advanced Energy Materials</i> , 2019, 9, 1970185.	19.5	1
87	Ultrafast Exciton Dynamics in Poly(3-hexylthiophene) Probed with Time Resolved X-ray Absorption Spectroscopy at the Carbon K-edge. , 2021, , .		1
88	Hot-carrier cooling in lead-bromide perovskite materials. , 2019, , .		1
89	Control of light absorption in organic solar cells using semi-transparent metal electrodes. <i>Proceedings of SPIE</i> , 2013, , .	0.8	0
90	Ultrafast Carrier Cooling in Led Halide Perovskite Solar Cells. , 2018, , .		0

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91	Charge Dynamics in NFA Material Systems Based on One, Two and Three Organic Semiconductors. , 0, , .		0
92	30-fs Hole-Transfer Dynamics in Polymer/PCBM Bulk Heterojunction. , 2010, , .		0
93	Water Dynamics near Hydrophobes: an Ultrafast Infrared Spectroscopy Study. , 2010, , .		0
94	Ultrafast Optical Control of Charge Dynamics in Organic and Hybrid Electronic Nanodevices. , 2014, , .		0
95	Ultra-low band gap polymers for organic electronic applications. , 0, , .		0
96	Organic Cation in Hybrid Perovskite Materials and Interfaces. , 0, , .		0
97	Ultrafast Electron Localisation and Delocalisation in Photoelectrochemical Cells. Towards Control of Excited-State Transport. , 0, , .		0
98	Ultrafast Intraband Spectroscopy of Hot-Carrier Cooling in Lead-Halide Perovskites. , 0, , .		0
99	Carrier-Carrier vs Carrier-Phonon Interactions in Lead-halide Perovskite Materials: Role of Carrier Density, Nanoconfinement, and Surface Ligands. , 0, , .		0
100	Impact of Marginal Exciton " Charge-transfer State Offset on Charge Generation and Recombination in Polymer: Fullerene Solar Cells. , 0, , .		0
101	Influence of Polymer Aggregation and Liquid Immiscibility on Morphology Tuning by Varying Composition in PffBT4T-2DT/Non-Fullerene Organic Solar Cells. Advanced Energy Materials, 2020, 10, .	19.5	0
102	Organic Cation in Hybrid Perovskite Materials and Interfaces. , 0, , .		0
103	Ultrafast Electron Localisation and Delocalisation in Photoelectrochemical Cells. Towards Control of Excited-State Transport. , 0, , .		0
104	Ultrafast Intraband Spectroscopy of Hot-Carrier Cooling in Lead-Halide Perovskites. , 0, , .		0
105	Impact of Marginal Exciton " Charge-transfer State Offset on Charge Generation and Recombination in Polymer: Fullerene Solar Cells. , 0, , .		0
106	Carrier-Carrier vs Carrier-Phonon Interactions in Lead-halide Perovskite Materials: Role of Carrier Density, Nanoconfinement, and Surface Ligands. , 0, , .		0
107	'Just Vibing': Coupled Organic and Inorganic Sublattices in Organohalide Perovskite Solar Cells. , 0, , .		0
108	Hot Carrier Cooling Dynamics in Lead Halide Perovskite Nanomaterials. , 0, , .		0

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109	How Fast Can Bound Exciton Formation Be? Sub-10-fs! , 0 , , .		0
110	Singlet fission dynamics in high quality rubrene single crystals. , 0 , , .		0