Hui Zhao

List of Publications by Citations

140 papers	6,468 citations	41 h-index	78 g-index
153 ext. papers	7,429 ext. citations	6.5 avg, IF	6.03 L-index

#	Paper	IF	Citations
140	Tightly bound excitons in monolayer WSe(2). *Physical Review Letters*, **2014**, 113, 026803	7.4	762
139	Ultrafast charge separation and indirect exciton formation in a MoS2-MoSe2 van der Waals heterostructure. *ACS Nano*, **2014**, 8, 12717-24	16.7	472
138	Second harmonic microscopy of monolayer MoS2. *Physical Review B*, **2013**, 87,	3.3	423
137	2D materials advances: from large scale synthesis and controlled heterostructures to improved characterization techniques, defects and applications. *2D Materials*, **2016**, 3, 042001	5.9	297
136	Exciton-exciton annihilation in MoSe2 monolayers. *Physical Review B*, **2014**, 89,	3.3	246
135	Third harmonic generation in graphene and few-layer graphite films. *Physical Review B*, **2013**, 87,	3.3	202
134	Ultrafast and spatially resolved studies of charge carriers in atomically thin molybdenum disulfide. *Physical Review B*, **2012**, 86,	3.3	184
133	Interlayer Coupling in Twisted WSe2/WS2 Bilayer Heterostructures Revealed by Optical Spectroscopy. *ACS Nano*, **2016**, 10, 6612-22	16.7	181
132	Electron transfer and coupling in graphene-tungsten disulfide van der Waals heterostructures. *Nature Communications*, **2014**, 5, 5622	17.4	170
131	Transient absorption microscopy of monolayer and bulk WSe2. *ACS Nano*, **2014**, 8, 2970-6	16.7	159
130	Exceptional and Anisotropic Transport Properties of Photocarriers in Black Phosphorus. *ACS Nano*, **2015**, 9, 6436-42	16.7	139
129	Third-harmonic generation in ultrathin films of MoS2. *ACS Applied Materials & Interfaces*, **2014**, 6, 314-8	9.5	137
128	Coherence control of Hall charge and spin currents. *Physical Review Letters*, **2006**, 96, 246601	7.4	119
127	Type-I van der Waals heterostructure formed by MoS and ReS monolayers. *Nanoscale Horizons*, **2017**, 2, 31-36	10.8	118
126	Exciton formation in monolayer transition metal dichalcogenides. *Nanoscale*, **2016**, 8, 11681-8	7.7	111
125	Ultrafast Laser Spectroscopy of Two-Dimensional Materials Beyond Graphene. *Advanced Functional Materials*, **2017**, 27, 1604509	15.6	97
124	Tightly Bound Trions in Transition Metal Dichalcogenide Heterostructures. *ACS Nano*, **2015**, 9, 6459-64	16.7	86

123	Spatially resolved femtosecond pump-probe study of topological insulator Bi2Se3. *Physical Review B*, **2011**, 83,	3.3	85
122	Exciton diffusion in monolayer and bulk MoSe2. *Nanoscale*, **2014**, 6, 4915-9	7.7	79
121	Charge carrier dynamics in bulk MoS2 crystal studied by transient absorption microscopy. *Journal of Applied Physics*, **2013**, 113, 133702	2.5	79
120	Transient Absorption Measurements on Anisotropic Monolayer ReS2. *Small*, **2015**, 11, 5565-71	11	71
119	Probing charge transfer excitons in a MoSe2-WS2 van der Waals heterostructure. *Nanoscale*, **2015**, 7, 17523-8	7.7	70
118	Charge Transfer Exciton and Spin Flipping at Organic-Transition-Metal Dichalcogenide Interfaces. *ACS Nano*, **2017**, 11, 10184-10192	16.7	68
117	Synthesis and optoelectronic properties of two-dimensional FeS2 nanoplates. *ACS Applied Materials & Interfaces*, **2012**, 4, 1174-7	9.5	68
116	Hot carrier diffusion in graphene. *Physical Review B*, **2010**, 82,	3.3	63
115	Suppression of Defects and Deep Levels Using Isoelectronic Tungsten Substitution in Monolayer MoSe2. *Advanced Functional Materials*, **2017**, 27, 1603850	15.6	62
114	Ambipolar diffusion of photoexcited carriers in bulk GaAs. *Applied Physics Letters*, **2010**, 97, 262119	3.4	62
113	Highly Efficient and Anomalous Charge Transfer in van der Waals Trilayer Semiconductors. *Nano Letters*, **2017**, 17, 1623-1628	11.5	59
112	Energy-dependent Huang-Rhys factor of free excitons. *Physical Review B*, **2003**, 68,	3.3	57
111	Deep Surface Trap Filling by Photoinduced Carriers and Interparticle Electron Transport Observed in TiO2 Nanocrystalline Film with Time-Resolved Visible and Mid-IR Transient Spectroscopies. *Journal of Physical Chemistry C*, **2007**, 111, 3762-3769	3.8	55
110	Valley and spin dynamics in MoSe2 two-dimensional crystals. *Nanoscale*, **2014**, 6, 12690-5	7.7	54
109	Spatiotemporal dynamics of excitons in monolayer and bulk WS2. *Nanoscale*, **2015**, 7, 9526-31	7.7	53
108	Femtosecond pump-probe studies of reduced graphene oxide thin films. *Applied Physics Letters*, **2010**, 96, 173106	3.4	53
107	The photo- and electro-luminescence properties of ZnO:Zn thin film. *Displays*, **2000**, 21, 147-149	3.4	51
106	Strong and anisotropic third-harmonic generation in monolayer and multilayer ReS2. *Physical Review B*, **2017**, 95,	3.3	47

105	Injection of ballistic pure spin currents in semiconductors by a single-color linearly polarized beam. *Physical Review B*, **2005**, 72,	3.3	45
104	Spatially resolved pump-probe study of single-layer graphene produced by chemical vapor deposition [Invited]. *Optical Materials Express*, **2012**, 2, 708	2.6	44
103	The effects of pyridine derivative additives on interface processes at nanocrystalline TiO2 thin film in dye-sensitized solar cells. *Surface and Interface Analysis*, **2007**, 39, 809-816	1.5	44
102	Solid immersion lens-enhanced nano-photoluminescence: Principle and applications. *Journal of Applied Physics*, **2003**, 93, 6265-6272	2.5	44
101	Observation of second-harmonic generation induced by pure spin currents. *Nature Physics*, **2010**, 6, 875-878	4.2	43
100	Self-assembly of CuS nanoflakes into flower-like microspheres: Synthesis and characterization. *Journal of Physics and Chemistry of Solids*, **2009**, 70, 422-427	3.9	42
99	Observation of intrinsic inverse spin Hall effect. *Physical Review Letters*, **2011**, 106, 107205	7.4	38
98	Ambipolar spin diffusion and D'yakonov-Perel'spin relaxation in GaAs quantum wells. *Physical Review B*, **2009**, 79,	3.3	37
97	Coherence length of excitons in a semiconductor quantum well. *Physical Review Letters*, **2002**, 89, 097401	7.4	37
96	Separating electrons and holes by monolayer increments in van der Waals heterostructures. *Physical Review Materials*, **2017**, 1,	3.2	37
95	Effect of the Interfacial Energy Landscape on Photoinduced Charge Generation at the ZnPc/MoS Interface. *Journal of the American Chemical Society*, **2019**, 141, 11328-11336	16.4	36
94	Hot exciton transport in ZnSe quantum wells. *Applied Physics Letters*, **2002**, 80, 1391-1393	3.4	36
93	Ultrafast Interlayer Electron Transfer in Incommensurate Transition Metal Dichalcogenide Homobilayers. *Nano Letters*, **2017**, 17, 6661-6666	11.5	35
92	Spatiotemporal dynamics of quantum-well excitons. *Physical Review B*, **2003**, 67,	3.3	35
91	Optical injection and detection of ballistic pure spin currents in Ge. *Applied Physics Letters*, **2009**, 95, 092107	3.4	34
90	Ionic-passivated FeS2 photocapacitors for energy conversion and storage. *Chemical Communications*, **2013**, 49, 9260-2	5.8	33
89	Ultrafast charge transfer between MoTe 2 and MoS 2 monolayers. *2D Materials*, **2017**, 4, 015033	5.9	32
88	Isotope-Engineering the Thermal Conductivity of Two-Dimensional MoS. *ACS Nano*, **2019**, 13, 2481-2489	16.7	32

87	Second-harmonic generation induced by electric currents in GaAs. *Physical Review Letters*, **2012**, 108, 077403	7.4	29
86	Effect of quantum confinement on exciton-phonon interactions. *Physical Review B*, **2002**, 66,	3.3	28
85	Exciton diffusion in semiconducting single-walled carbon nanotubes studied by transient absorption microscopy. *Physical Review B*, **2012**, 86,	3.3	27
84	Temperature dependence of ambipolar diffusion in silicon on insulator. *Applied Physics Letters*, **2008**, 92, 112104	3.4	27
83	Time-Resolved Measurements of Photocarrier Dynamics in TiS3 Nanoribbons. *ACS Applied Materials & Interfaces*, **2016**, 8, 18334-8	9.5	24
82	Coherent Control of Nanoscale Ballistic Currents in Transition Metal Dichalcogenide ReS2. *ACS Nano*, **2015**, 9, 3935-41	16.7	22
81	Dynamics of charge currents ballistically injected in GaAs by quantum interference. *Journal of Applied Physics*, **2008**, 103, 053510	2.5	22
80	Temporally and spatially resolved ballistic pure spin transport. *Physical Review B*, **2007**, 75,	3.3	21
79	Photocarrier dynamics in monolayer phosphorene and bulk black phosphorus. *Nanoscale*, **2018**, 10, 11307-11313	7.7	21
78	Understanding charge transfer in carbon nanotube-fullerene bulk heterojunctions. *ACS Applied Materials & Interfaces*, **2015**, 7, 7428-35	9.5	20
77	Energy relaxation during hot-exciton transport in quantum wells: Direct observation by spatially resolved phonon-sideband spectroscopy. *Applied Physics Letters*, **2002**, 81, 2794-2796	3.4	20
76	A type-I van der Waals heterobilayer of WSe/MoTe. *Nanotechnology*, **2018**, 29, 335203	3.4	20
75	Efficient hole transfer from monolayer WS to ultrathin amorphous black phosphorus. *Nanoscale Horizons*, **2019**, 4, 236-242	10.8	19
74	Probing effect of electric field on photocarrier transfer in graphene-WS2 van der Waals heterostructures. *Optics Express*, **2017**, 25, 1949-1957	3.3	19
73	Effect of Dielectric Environment on Excitonic Dynamics in Monolayer WS2. *Advanced Materials Interfaces*, **2019**, 6, 1901307	4.6	17
72	Amorphous two-dimensional black phosphorus with exceptional photocarrier transport properties. *2D Materials*, **2017**, 4, 025063	5.9	16
71	Probing excitons in transition metal dichalcogenides by Drude-like exciton intraband absorption. *Nanoscale*, **2018**, 10, 9538-9546	7.7	16
70	Excitonic Dynamics in Janus MoSSe and WSSe Monolayers. *Nano Letters*, **2021**, 21, 931-937	11.5	16

69	Correlation in Vertically Stacked CdSe Based Quantum Islands. *Physica Status Solidi (B): Basic Research*, **2002**, 229, 519-522	1.3	15
68	Controlling exciton transport in monolayer MoSe2 by dielectric screening. *Nanoscale Horizons*, **2020**, 5, 139-143	10.8	15
67	Photocarrier Transfer across Monolayer MoS-MoSe Lateral Heterojunctions. *ACS Nano*, **2018**, 12, 7086-7092	15.7	14
66	Spectroscopic Evidence for the Exciton Percolation Threshold in Low-Dimensional ZnCdSe Solutions with Nano-Islands. *Physica Status Solidi (B): Basic Research*, **2002**, 229, 509-512	1.3	14
65	Ultrafast Optical Modulation of Harmonic Generation in Two-Dimensional Materials. *Nano Letters*, **2020**, 20, 8053-8058	11.5	14
64	Efficient Energy Transfer in InSe-MoSe van der Waals Heterostructures. *ACS Omega*, **2018**, 3, 11930-11936	3.9	14
63	Temporally Resolving Synchronous Degenerate and Nondegenerate Two-Photon Absorption in 2D Semiconducting Monolayers. *Laser and Photonics Reviews*, **2019**, 13, 1800225	8.3	13
62	Effects of rhenium dopants on photocarrier dynamics and optical properties of monolayer, few-layer, and bulk MoS. *Nanoscale*, **2017**, 9, 19360-19366	7.7	11
61	All-optical generation and detection of subpicosecond ac spin-current pulses in GaAs. *Physical Review B*, **2008**, 78,	3.3	11
60	Ultrafast charge transfer in a type-II MoS-ReSe van der Waals heterostructure. *Optics Express*, **2019**, 27, 17851-17858	3.3	11
59	Interlayer charge transfer in ReS2/WS2 van der Waals heterostructures. *Physical Review B*, **2019**, 99,	3.3	10
58	Toward attosecond control of electron dynamics in two-dimensional materials. *Applied Physics Letters*, **2020**, 116, 043101	3.4	10
57	Ultrafast transient absorption measurements of photocarrier dynamics in monolayer and bulk ReSe. *Optics Express*, **2018**, 26, 21501-21509	3.3	10
56	Optical studies of ballistic currents in semiconductors [Invited]. *Journal of the Optical Society of America B: Optical Physics*, **2012**, 29, A43	1.7	10
55	Optical Properties and Photocarrier Dynamics of Bi2O2Se Monolayer and Nanoplates. *Advanced Optical Materials*, **2020**, 8, 1901567	8.1	10
54	Nonlinear optical effect of interlayer charge transfer in a van der Waals heterostructure. *Applied Physics Letters*, **2019**, 115, 263103	3.4	10
53	Ultrafast breathinglike oscillation in the exciton density of ZnSe quantum wells. *Physical Review Letters*, **2005**, 94, 137402	7.4	9
52	All-optical technique to correlate defect structure and carrier transport in transferred graphene films. *ACS Applied Materials & Interfaces*, **2013**, 5, 7176-80	9.5	8

51	Two-probe study of hot carriers in reduced graphene oxide. *Journal of Applied Physics*, **2011**, 109, 084322	2.5	8
50	Layer-Coupled States Facilitate Ultrafast Charge Transfer in a Transition Metal Dichalcogenide Trilayer Heterostructure. *Journal of Physical Chemistry Letters*, **2018**, 9, 5970-5978	6.4	8
49	Injection and detection of ballistic electrical currents in silicon. *Applied Physics Letters*, **2010**, 97, 212106	3.4	7
48	Determination of SiO2 colloid core size by SAXS. *Journal of Materials Science Letters*, **2003**, 22, 33-35		7
47	Understanding Spatiotemporal Photocarrier Dynamics in Monolayer and Bulk MoTe2 for Optimized Optoelectronic Devices. *ACS Applied Nano Materials*, **2019**, 2, 459-464	5.6	7
46	Unipolar optical doping and extended photocarrier lifetime in graphene by band-alignment engineering. *Nano Futures*, **2018**, 2, 035003	3.6	7
45	Transient absorption of transition metal dichalcogenide monolayers studied by a photodope-pump-probe technique. *Physical Review B*, **2020**, 102,	3.3	6
44	Transient Absorption Microscopy of Layered Crystal AsSbS. *Journal of Physical Chemistry A*, **2020**, 124, 1047-1052	2.8	6
43	Electron dynamics in MoS-graphite heterostructures. *Nanoscale*, **2017**, 9, 14533-14539	7.7	6
42	All-optical injection and detection of ballistic charge currents in germanium. *Journal of Applied Physics*, **2010**, 108, 083111	2.5	6
41	Quasi-ballistic transport of excitons in quantum wells. *Journal of Luminescence*, **2005**, 112, 136-141	3.8	6
40	Power dependence of pure spin current injection by quantum interference. *Physical Review B*, **2009**, 79,	3.3	5
39	Coherence length and time of excitons in ZnSe quantum wells. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2004**, 1, 462-465		5
38	Direct measurement of acoustic-phonon scattering of hot quantum-well excitons. *Physical Review B* , **2004**, 69,	3.3	5
37	Photocarrier dynamics in transition metal dichalcogenide alloy Mo0.5W0.5S2. *Optics Express*, **2015**, 23, 33370-7	3.3	4
36	Observation of charge transfer in mixed-dimensional heterostructures formed by transition metal dichalcogenide monolayers and PbS quantum dots. *Physical Review B*, **2019**, 100,	3.3	4
35	Non-classical excitonic transport in quantum wells. *Physica Status Solidi (B): Basic Research*, **2003**, 238, 529-532	1.3	3
34	Influence of spatial charges on transport properties of thin film electroluminescent displays. *Displays*, **2000**, 21, 143-146	3.4	3

33	Ultrafast Interlayer Charge Transfer between Bilayer PtSe and Monolayer WS. *ACS Applied Materials & Interfaces*, **2021**, 13, 57822-57830	9.5	3
32	Time-Resolved Observation of Hole Tunneling in van der Waals Multilayer Heterostructures. *ACS Applied Materials & Interfaces*, **2021**, 13, 12425-12431	9.5	3
31	Thickness-Dependent Interlayer Charge Transfer in MoSe/MoS Heterostructures Studied by Femtosecond Transient Absorption Measurements. *ACS Applied Materials & Interfaces*, **2021**, 13, 6489-6495	9.5	3
30	Theoretical Insights into Ultrafast Dynamics in Quantum Materials. *Ultrafast Science*, **2022**, 2022, 1-16		3
29	Transition Metal Dichalcogenides: Suppression of Defects and Deep Levels Using Isoelectronic Tungsten Substitution in Monolayer MoSe2 (Adv. Funct. Mater. 19/2017). *Advanced Functional Materials*, **2017**, 27,	15.6	2
28	Dynamics of charge-transfer excitons in a transition metal dichalcogenide heterostructure. *Nanoscale*, **2020**, 12, 8485-8492	7.7	2
27	Upconversion photoluminescence by charge transfer in a van der Waals trilayer. *Applied Physics Letters*, **2019**, 115, 173102	3.4	2
26	Solid-immersion-lens-enhanced nanophotoluminescence for spectroscopy of quantum dot systems. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2003**, 1237-1241		2
25	Electron Acceleration Process in ZnS-Type Thin Film Electroluminescence Devices. *Chinese Physics Letters*, **1999**, 16, 217-219	1.8	2
24	Transient acceleration process of electrons in ZnS-type thin film electroluminescence devices. *Journal of Physics Condensed Matter*, **1999**, 11, 2145-2151	1.8	2
23	Influence of charged centres on transport properties of thin film electroluminescent devices. *Semiconductor Science and Technology*, **1999**, 14, 1098-1101	1.8	2
22	Transient transport of electrons in thin film electroluminescent devices. *Science in China Series D: Earth Sciences*, **1999**, 42, 282-287		2
21	Charge Transfer Properties of Heterostructures Formed by Bi O Se and Transition Metal Dichalcogenide Monolayers. *Small*, **2021**, e2106078	11	2
20	Ultrafast hole transfer from monolayer ReS2 to thin-film F8ZnPc. *Applied Physics Letters*, **2021**, 118, 153104	3.4	2
19	Nonlinear Optical Experiments on Graphene **2017**, 221-240		1
18	Spatiotemporally Resolved Optical Measurements on Photocarrier Dynamics in Copper Monosulfide. *Journal of Physical Chemistry C*, **2020**, 124, 14459-14464	3.8	1
17	Feature issue introduction: two-dimensional materials for photonics and optoelectronics. *Optical Materials Express*, **2016**, 6, 2458	2.6	1
16	Quantum interference and control of the dynamic Franz-Keldysh effect: Generation and detection of terahertz space-charge fields. *Applied Physics Letters*, **2013**, 102, 251110	3.4	1

15	Electrically induced charge-density waves in a two-dimensional electron liquid: Effects of negative electronic compressibility. *Physical Review B*, **2017**, 96,	3.3	1
14	Spatial breathing of the exciton distribution in ZnSe quantum wells. *Physica Status Solidi (B): Basic Research*, **2004**, 241, 579-582	1.3	1
13	Non-Diffusive In-Plane Transport of Excitons in ZnSe Quantum Wells. *Physica Status Solidi (B): Basic Research*, **2002**, 229, 577-580	1.3	1
12	Spatial Distribution of Electron Energy in Thin Film Electroluminescent Displays. *Physica Scripta*, **2001**, 63, 500-503	2.6	1
11	Tracking photocarrier-enhanced electron-phonon coupling in nonequilibrium. *Npj Quantum Materials*, **2022**, 7,	5	1
10	Hot Excitons in ZnSe Quantum Wells. *Springer Series in Solid-state Sciences*, **2004**, 19-45	0.4	1
9	Type-II WS2ReSe2 heterostructure and its charge-transfer properties. *Journal of Materials Research*, **2020**, 35, 1417-1423	2.5	1
8	Photocarrier Dynamics in TlGaS2 Nanoflakes and van der Waals Heterostructures with Hexagonal Boron Nitride and WS2 Nanoflakes: Implications for Optoelectronic Applications. *ACS Applied Nano Materials*, **2020**, 3, 8702-8707	5.6	1
7	All-optical control of charge transfer and interlayer excitons in transition metal dichalcogenide heterostructures. *Physical Review B*, **2021**, 103,	3.3	1
6	Photoluminescence enhancement at a high generation rate induced by exciton localization. *Optics Letters*, **2021**, 46, 2774-2777	3	1
5	Efficient interlayer electron transfer in a MoTe2/WS2/MoS2 trilayer heterostructure. *Applied Physics Letters*, **2021**, 118, 253106	3.4	1
4	Photocarrier Dynamics in MoTe Nanofilms with 2 and Distorted 1 Lattice Structures. *ACS Applied Materials & Interfaces*, **2021**, 13, 44703-44710	9.5	1
3	A Ferrotoroidic Candidate with Well-separated Spin Chains.. *Advanced Materials*, **2022**, e2106728	24	0
2	Ultrafast charge transfer and carrier dynamics in a WS2/MoSe2 few-layer van der Waals heterostructure. *Journal of Materials Chemistry C*, **2022**, 10, 5328-5335	7.1	0
1	Fast Exciton Diffusion in Monolayer PtSe2. *Laser and Photonics Reviews*,2100594	8.3	0