

# Dong Sun

## List of Publications by Year in descending order

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68  
papers

3,936  
citations

172457

29  
h-index

118850

62  
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68  
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68  
docs citations

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times ranked

6045  
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrafast Relaxation of Excited Dirac Fermions in Epitaxial Graphene Using Optical Differential Transmission Spectroscopy. <i>Physical Review Letters</i> , 2008, 101, 157402.	7.8	427
2	Ultrafast hot-carrier-dominated photocurrent in graphene. <i>Nature Nanotechnology</i> , 2012, 7, 114-118.	31.5	362
3	Valley Carrier Dynamics in Monolayer Molybdenum Disulfide from Helicity-Resolved Ultrafast Pump-Probe Spectroscopy. <i>ACS Nano</i> , 2013, 7, 11087-11093.	14.6	213
4	Nonlinear photoresponse of type-II Weyl semimetals. <i>Nature Materials</i> , 2019, 18, 476-481.	27.5	185
5	Semimetals for high-performance photodetection. <i>Nature Materials</i> , 2020, 19, 830-837.	27.5	181
6	Ultrafast Broadband Photodetectors Based on Three-Dimensional Dirac Semimetal Cd <sub>3</sub> As <sub>2</sub> . <i>Nano Letters</i> , 2017, 17, 834-841.	9.1	162
7	Observation of ballistic avalanche phenomena in nanoscale vertical InSe/BP heterostructures. <i>Nature Nanotechnology</i> , 2019, 14, 217-222.	31.5	153
8	Dynamical Evolution of Anisotropic Response in Black Phosphorus under Ultrafast Photoexcitation. <i>Nano Letters</i> , 2015, 15, 4650-4656.	9.1	142
9	On the Quantum Spin Hall Gap of Monolayer 1Tâ€²â€²WTe <sub>2</sub> . <i>Advanced Materials</i> , 2016, 28, 4845-4851.	21.0	141
10	Anisotropic Broadband Photoresponse of Layered Type-II Weyl Semimetal MoTe <sub>2</sub> . <i>Advanced Materials</i> , 2018, 30, e1707152.	21.0	139
11	Coherent Control of Ballistic Photocurrents in Multilayer Epitaxial Graphene Using Quantum Interference. <i>Nano Letters</i> , 2010, 10, 1293-1296.	9.1	122
12	Spectroscopic Measurement of Interlayer Screening in Multilayer Epitaxial Graphene. <i>Physical Review Letters</i> , 2010, 104, 136802.	7.8	100
13	Broadband Anisotropic Photoresponse of the â€œHydrogen Atomâ€-Version Type-II Weyl Semimetal Candidate TaIrTe <sub>4</sub> . <i>ACS Nano</i> , 2018, 12, 4055-4061.	14.6	94
14	Light-induced emergent phenomena in 2D materials and topological materials. <i>Nature Reviews Physics</i> , 2022, 4, 33-48.	26.6	94
15	Optical Properties of Metal-Molybdenum Disulfide Hybrid Nanosheets and Their Application for Enhanced Photocatalytic Hydrogen Evolution. <i>ACS Nano</i> , 2014, 8, 6979-6985.	14.6	92
16	Coherent Longitudinal Acoustic Phonon Approaching THz Frequency in Multilayer Molybdenum Disulfide. <i>Scientific Reports</i> , 2014, 4, 5722.	3.3	80
17	Topological Surface State Enhanced Photothermoelectric Effect in Bi <sub>2</sub> Se <sub>3</sub> Nanoribbons. <i>Nano Letters</i> , 2014, 14, 4389-4394.	9.1	79
18	Photoresponse of a strongly correlated material determined by scanning photocurrent microscopy. <i>Nature Nanotechnology</i> , 2012, 7, 723-727.	31.5	72

#	ARTICLE	IF	CITATIONS
19	Epitaxial Synthesis of Monolayer PtSe <sub>2</sub> Single Crystal on MoSe <sub>2</sub> with Strong Interlayer Coupling. ACS Nano, 2019, 13, 10929-10938.	14.6	72
20	Seamless lateral graphene p-n junctions formed by selective in situ doping for high-performance photodetectors. Nature Communications, 2018, 9, 5168.	12.8	71
21	Robust edge photocurrent response on layered type II Weyl semimetal WTe <sub>2</sub> . Nature Communications, 2019, 10, 5736.	12.8	69
22	The Opposite Anisotropic Piezoresistive Effect of ReS <sub>2</sub> . ACS Nano, 2019, 13, 3310-3319.	14.6	55
23	Absorption saturation in optically excited graphene. Applied Physics Letters, 2012, 101, .	3.3	54
24	Ultrafast relaxation dynamics of photoexcited Dirac fermions in the three-dimensional Dirac semimetal $Cd_3As_2$ . Physical Review B, 2018, 98, .	3.2	47
25	Terahertz probe of photoexcited carrier dynamics in the Dirac semimetal $Cd_3As_2$ . Physical Review B, 2018, 98, .	3.2	46
26	Review of photo response in semiconductor transition metal dichalcogenides based photosensitive devices. Optical Materials Express, 2016, 6, 2313.	3.0	44
27	Self-powered photodetector based on vertical MoO <sub>3</sub> /MoS <sub>2</sub> hetero-structure with gate tunable photo-response. 2D Materials, 2019, 6, 035033.	4.4	41
28	Current relaxation due to hot carrier scattering in graphene. New Journal of Physics, 2012, 14, 105012.	2.9	39
29	Contact Engineering of Molybdenum Ditelluride Field Effect Transistors through Rapid Thermal Annealing. ACS Applied Materials & Interfaces, 2017, 9, 30107-30114.	8.0	37
30	Implementing Lateral MoSe <sub>2</sub> p-n Homojunction by Efficient Carrier-Type Modulation. ACS Applied Materials & Interfaces, 2018, 10, 26533-26538.	8.0	29
31	Ultrafast photothermoelectric effect in Dirac semimetallic Cd <sub>3</sub> As <sub>2</sub> revealed by terahertz emission. Nature Communications, 2022, 13, 1623.	12.8	29
32	Electronic cooling via interlayer Coulomb coupling in multilayer epitaxial graphene. Nature Communications, 2015, 6, 8105.	12.8	28
33	Experimental progress on layered topological semimetals. 2D Materials, 2019, 6, 032001.	4.4	26
34	Review of ultrafast spectroscopy studies of valley carrier dynamics in two-dimensional semiconducting transition metal dichalcogenides. Chinese Physics B, 2017, 26, 037801.	1.4	25
35	Photocurrent response of type-II Dirac semimetal PtTe <sub>2</sub> . 2D Materials, 2020, 7, 034003.	4.4	24
36	Wet Chemical Method for Black Phosphorus Thinning and Passivation. ACS Applied Materials & Interfaces, 2019, 11, 9213-9222.	8.0	23

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37	Photoluminescent Quantum Interference in a van der Waals Magnet Preserved by Symmetry Breaking. ACS Nano, 2020, 14, 1003-1010.	14.6	23
38	One-step exfoliation and functionalization of graphene by hydrophobin for high performance water molecular sensing. Carbon, 2017, 116, 695-702.	10.3	20
39	Entanglement-changing power of two-qubit unitary operations. Physical Review A, 2004, 70, .	2.5	19
40	Evidence for interlayer electronic coupling in multilayer epitaxial graphene from polarization-dependent coherently controlled photocurrent generation. Physical Review B, 2012, 85, .	3.2	19
41	Photovoltaic Effect and Evidence of Carrier Multiplication in Graphene Vertical Homojunctions with Asymmetrical Metal Contacts. ACS Nano, 2015, 9, 8851-8858.	14.6	19
42	An ultrafast terahertz probe of the transient evolution of the charged and neutral phase of photo-excited electron-hole gas in a monolayer semiconductor. 2D Materials, 2016, 3, 014001.	4.4	18
43	Two-dimensional Material-enhanced Flexible and Self-healable Photodetector for Large-area Photodetection. Advanced Functional Materials, 2021, 31, 2100136.	14.9	17
44	Dynamical evolution of anisotropic response of type-II Weyl semimetal TaIrTe <sub>4</sub> under ultrafast photoexcitation. Light: Science and Applications, 2021, 10, 101.	16.6	17
45	Solution-Based Property Tuning of Black Phosphorus. ACS Applied Materials & Interfaces, 2018, 10, 39890-39897.	8.0	16
46	Hot carrier cooling by acoustic phonons in epitaxial graphene by ultrafast pump-probe spectroscopy. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1194-1197.	0.8	15
47	Single crystalline SmB <sub>6</sub> nanowires for self-powered, broadband photodetectors covering mid-infrared. Applied Physics Letters, 2018, 112, .	3.3	14
48	Anisotropic visible photoluminescence from thermally annealed few-layer black phosphorus. Nanotechnology, 2018, 29, 245202.	2.6	13
49	Ultraviolet Light-Induced Persistent and Degenerated Doping in MoS <sub>2</sub> for Potential Photocontrollable Electronics Applications. ACS Applied Materials & Interfaces, 2018, 10, 27840-27849.	8.0	13
50	Slow Light Using P-Doped Semiconductor Heterostructures for High-Bandwidth Nonlinear Signal Processing. Journal of Lightwave Technology, 2008, 26, 3811-3817.	4.6	12
51	Thin tungsten telluride layer preparation by thermal annealing. Nanotechnology, 2016, 27, 414006.	2.6	12
52	Barkhausen effect in the first order structural phase transition in type-II Weyl semimetal MoTe <sub>2</sub> . 2D Materials, 2018, 5, 044003.	4.4	12
53	Spin relaxation in charged quantum dots measured by coherent optical phase modulation spectroscopy. Solid State Communications, 2006, 140, 381-385.	1.9	11
54	Giant All-Optical Modulation of Second-Harmonic Generation Mediated by Dark Excitons. ACS Photonics, 2021, 8, 2320-2328.	6.6	11

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55	Dynamical anisotropic response of black phosphorus under magnetic field. 2D Materials, 2018, 5, 025010.	4.4	10
56	Population Inversion and Dirac Fermion Cooling in 3D Dirac Semimetal Cd <sub>3</sub> As <sub>2</sub> . Nano Letters, 2022, 22, 1138-1144.	9.1	9
57	Direct Light Orbital Angular Momentum Detection in Mid-Infrared Based on the Type-II Weyl Semimetal TaIrTe <sub>4</sub> . Advanced Materials, 2022, 34, .	21.0	9
58	Circular photogalvanic effect from third-order nonlinear effect in 1T <sup>TM</sup> -MoTe <sub>2</sub> . 2D Materials, 2021, 8, 025016.	4.4	8
59	Ultrafast dynamics and interlayer thermal coupling of hot carriers in epitaxial graphene. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 470-473.	0.8	5
60	Liquid phase mass production of air-stable black phosphorus/phospholipids nanocomposite with ultralow tunneling barrier. 2D Materials, 2018, 5, 025012.	4.4	4
61	Gradient rhenium doping enabled tunable anisotropic valleytronic material based on monolayer molybdenum disulfide. 2D Materials, 2021, 8, 035031.	4.4	4
62	Radio frequency polarization modulation based on an optical frequency comb. Review of Scientific Instruments, 2020, 91, 083111.	1.3	3
63	Terahertz relaxation dynamics of a two-dimensional InSe multilayer. Physical Review B, 2020, 102, .	3.2	2
64	Coherent diffraction rings induced by thermal-mechanical effect of a flexible Dirac semimetallic composite structure. Journal of Applied Physics, 2021, 129, 093102.	2.5	2
65	THz Carrier Dynamics in Epitaxial Graphene. , 2009, , .		1
66	Ultrafast Spectroscopy of Multilayer Epitaxial Graphene. , 2009, , .		1
67	Microscopic theory of quantum interference-based generation and decay of current in graphene. , 2012, , .		0
68	Temperature-Dependent Coherently Controlled Photocurrent Generation in Epitaxial Graphene. , 2010, , .		0