Hyunyong Choi

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8758119/publications.pdf

Version: 2024-02-01

80	2,953	159358	168136
papers	citations	30 h-index	53 g-index

83	83	83	5494
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Controllable synthesis of molybdenum tungsten disulfide alloy for vertically composition-controlled multilayer. Nature Communications, 2015, 6, 7817.	5.8	188
2	Exciton dynamics in atomically thin MoS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>: Interexcitonic interaction and broadening kinetics. Physical Review B, 2013, 88, .	1.1	173
3	Lowering the Schottky Barrier Height by Graphene/Ag Electrodes for Highâ€Mobility MoS₂ Fieldâ€Effect Transistors. Advanced Materials, 2019, 31, e1804422.	11.1	165
4	Gate-Controlled Nonlinear Conductivity of Dirac Fermion in Graphene Field-Effect Transistors Measured by Terahertz Time-Domain Spectroscopy. Nano Letters, 2012, 12, 551-555.	4.5	161
5	Interlayer orientation-dependent light absorption and emission in monolayer semiconductor stacks. Nature Communications, 2015, 6, 7372.	5.8	154
6	Unusually efficient photocurrent extraction in monolayer van der Waals heterostructure by tunnelling through discretized barriers. Nature Communications, 2016, 7, 13278.	5.8	120
7	Rotationâ€Misfitâ€Free Heteroepitaxial Stacking and Stitching Growth of Hexagonal Transitionâ€Metal Dichalcogenide Monolayers by Nucleation Kinetics Controls. Advanced Materials, 2015, 27, 3803-3810.	11.1	113
8	2D Transition Metal Dichalcogenide Heterostructures for pâ€•and nâ€Type Photovoltaic Selfâ€Powered Gas Sensor. Advanced Functional Materials, 2020, 30, 2003360.	7.8	102
9	Solvent-Assisted Gel Printing for Micropatterning Thin Organicâ€“Inorganic Hybrid Perovskite Films. ACS Nano, 2016, 10, 9026-9035.	7.3	95
10	Time-Resolved Observations of Photo-Generated Charge-Carrier Dynamics in Sb₂Se₃ Photocathodes for Photoelectrochemical Water Splitting. ACS Nano, 2018, 12, 11088-11097.	7.3	94
11	Gain Recovery Dynamics and Photon-Driven Transport in Quantum Cascade Lasers. Physical Review Letters, 2008, 100, 167401.	2.9	85
12	Ultrafast terahertz dynamics of hot Dirac-electron surface scattering in the topological insulator<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi>Bi</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub></mml:math><mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi>Se</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2014, 89, .	3.7	85
13	Ultra-high modulation depth exceeding 2,400% in optically controlled topological surface plasmons. Nature Communications, 2015, 6, 8814.	5.8	76
14	Selectively tunable optical Stark effect of anisotropic excitons in atomically thin ReS2. Nature Communications, 2016, 7, 13569.	5.8	76
15	Writing monolithic integrated circuits on a two-dimensional semiconductor with a scanning light probe. Nature Electronics, 2018, 1, 512-517.	13.1	74
16	1s-intraexcitonic dynamics in monolayer MoS2 probed by ultrafast mid-infrared spectroscopy. Nature Communications, 2016, 7, 10768.	5.8	72
17	Highly Sensitive, Gate-Tunable, Room-Temperature Mid-Infrared Photodetection Based on Grapheneâ€“Bi₂Se₃ Heterostructure. ACS Photonics, 2017, 4, 482-488.	3.2	70
18	Sulfur vacancy-induced reversible doping of transition metal disulfides via hydrazine treatment. Nanoscale, 2017, 9, 9333-9339.	2.8	66

#	Article	IF	Citations
19	Ultrafast Rabi flopping and coherent pulse propagation in a quantum cascade laser. Nature Photonics, 2010, 4, 706-710.	15.6	58
20	Electrical Control of Electromagnetically Induced Transparency by Terahertz Metamaterial Funneling. Advanced Optical Materials, 2019, 7, 1801205.	3.6	55
21	Heteroepitaxial van der Waals semiconductor superlattices. Nature Nanotechnology, 2021, 16, 1092-1098.	15.6	54
22	Ultrafast quantum beats of anisotropic excitons in atomically thin ReS2. Nature Communications, 2018, 9, 351.	5.8	49
23	Electrically Controllable Molecularization of Terahertz Metaâ€Atoms. Advanced Materials, 2018, 30, e1802760.	11.1	42
24	Reconfigurable photo-induced doping of two-dimensional van der Waals semiconductors using different photon energies. Nature Electronics, 2021, 4, 38-44.	13.1	42
25	Carrier multiplication in van der Waals layered transition metal dichalcogenides. Nature Communications, 2019, 10, 5488.	5.8	41
26	Control over Electronâ€“Phonon Interaction by Dirac Plasmon Engineering in the Bi₂Se₃ Topological Insulator. Nano Letters, 2018, 18, 734-739.	4.5	39
27	Tunable Fano quantum interference dynamics using a topological phase transition in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mrow><mml:mo>(</mml:mo><mml:mrow><mml:mi>Bi</mml:mi>	1.1	37
28	Near-field sub-diffraction photolithography with an elastomeric photomask. Nature Communications, 2020, 11, 805.	5.8	36
29	Unconventional Terahertz Carrier Relaxation in Graphene Oxide: Observation of Enhanced Auger Recombination Due to Defect Saturation. ACS Nano, 2014, 8, 2486-2494.	7.3	33
30	Generation, transport and detection of valley-locked spin photocurrent in WSe2â€“grapheneâ€“Bi2Se3 heterostructures. Nature Nanotechnology, 2018, 13, 910-914.	15.6	33
31	Terahertz induced transparency in single-layer graphene. Applied Physics Letters, 2014, 105, .	1.5	31
32	Polarization Selective Color Filter Based on Plasmonic Nanograting Embedded Etalon Structures. Nano Letters, 2020, 20, 6344-6350.	4.5	31
33	Terahertz time-domain measurement of non-Drude conductivity in silver nanowire thin films for transparent electrode applications. Applied Physics Letters, 2013, 102, 011109.	1.5	29
34	Femtosecond dynamics of resonant tunneling and superlattice relaxation in quantum cascade lasers. Applied Physics Letters, 2008, 92, 122114.	1.5	27
35	Fully Transparent pâ€MoTe₂ 2D Transistors Using Ultrathin MoO_x/Pt Contact Media for Indiumâ€Tinâ€Oxide Source/Drain. Advanced Functional Materials, 2018, 28, 1801204.	7.8	25
36	Time-domain upconversion measurements of group-velocity dispersion in quantum cascade lasers. Optics Express, 2007, 15, 15898.	1.7	23

#	Article	IF	Citations
37	Role of weak interlayer coupling in ultrafast exciton-exciton annihilation in two-dimensional rhenium dichalcogenides. Physical Review B, 2020, 101, .	1.1	21
38	Electromagnetically Induced Transparency Analogue by Selfâ€Complementary Terahertz Metaâ€Atom. Advanced Optical Materials, 2016, 4, 627-633.	3.6	20
39	Light Polarization-Controlled Conversion of Ultrafast Coherentâ€“Incoherent Exciton Dynamics in Few-Layer ReS₂. Nano Letters, 2019, 19, 7464-7469.	4.5	20
40	Analysis of Defect Recovery in Reduced Graphene Oxide and Its Application as a Heater for Self-Healing Polymers. ACS Applied Materials & Interfaces, 2019, 11, 16804-16814.	4.0	19
41	Picosecond Competing Dynamics of Apparent Semiconducting-Metallic Phase Transition in the Topological Insulator Bi₂Se₃. ACS Photonics, 2020, 7, 759-764.	3.2	19
42	Anisotropy Modeling of Terahertz Metamaterials: Polarization Dependent Resonance Manipulation by Meta-Atom Cluster. Scientific Reports, 2014, 4, 5217.	1.6	16
43	Comparison of hydrogen sulfide gas and sulfur powder for synthesis of molybdenum disulfide nanosheets. Current Applied Physics, 2016, 16, 691-695.	1.1	15
44	Designing Two-Dimensional Dirac Heterointerfaces of Few-Layer Graphene and Tetradymite-Type Sb₂Te₃ for Thermoelectric Applications. ACS Applied Materials & Interfaces, 2017, 9, 42050-42057.	4.0	14
45	Photoinduced Nonlinear Mixing of Terahertz Dipole Resonances in Graphene Metadevices. Advanced Materials, 2016, 28, 1495-1500.	11.1	13
46	Electrical detection of the surface spin polarization of the candidate topological Kondo insulator <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Sm</mml:mi><mml:msub><mml:mi mathvariant="normal">B</mml:mi><mml:mn>6</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2019, 99, .	1.1	13
47	Dirac Fermion and Plasmon Dynamics in Graphene and 3D Topological Insulators. Advanced Optical Materials, 2020, 8, 1801334.	3.6	13
48	Composition Control of Plasmonâ€“Phonon Interaction Using Topological Quantum-Phase Transition in Photoexcited (Bi_{1â€“x}In_x)₂Se₃. ACS Photonics, 2016, 3, 1426-1431.	3.2	12
49	Observation of the Inverse Giant Piezoresistance Effect in Silicon Nanomembranes Probed by Ultrafast Terahertz Spectroscopy. Nano Letters, 2014, 14, 6942-6948.	4.5	11
50	Opposite behavior of ultrafast dynamics of exciton shift and linewidth broadening in bilayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Re</mml:mi><mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2021, 103, .	1.1	11
51	Light Absorption and Emission Dominated by Trions in the Type-I van der Waals Heterostructures. ACS Photonics, 2021, 8, 1972-1978.	3.2	10
52	Ultrafast Spin-Resolved Spectroscopy Reveals Dominant Exciton Dynamics in Conducting Polymer Polyaniline. Journal of Physical Chemistry C, 2013, 117, 20371-20375.	1.5	8
53	Ultrafast zero balance of the oscillator-strength sum rule in graphene. Scientific Reports, 2013, 3, 2663.	1.6	8
54	Role of Spin Hall Effect in the Topological Side Surface Conduction. ACS Photonics, 2018, 5, 3347-3352.	3.2	8

#	Article	IF	Citations
55	Ultrafast non-excitonic valley Hall effect in MoS2/WTe2 heterobilayers. Nature Communications, 2021, 12, 1635.	5.8	8
56	Ultrafast Electronic Dynamics in Unipolar n-Doped InGaAsâ€“GaAs Self-Assembled Quantum Dots. IEEE Journal of Quantum Electronics, 2007, 43, 486-496.	1.0	7
57	Ultrafast Hot-Carrier Photovoltaics of Type-I Monolayer Heterojunctions in the Broad Spectral Ranges. ACS Photonics, 2017, 4, 429-434.	3.2	6
58	Highly efficient computer algorithm for identifying layer thickness of atomically thin 2D materials. Journal Physics D: Applied Physics, 2018, 51, 11LT03.	1.3	6
59	Counterbalanced Effect of Surface Trap and Auger Recombination on the Transverse Terahertz Carrier Dynamics in Silicon Nanowires. IEEE Transactions on Terahertz Science and Technology, 2015, 5, 605-612.	2.0	5
60	Electromagnetic dipole coupling mechanism in layered terahertz metamaterials. Optics Express, 2013, 21, 16975.	1.7	4
61	Terahertz Investigation of Dirac Materials: Graphene and Topological Insulators. Journal of the Korean Physical Society, 2018, 72, 1484-1490.	0.3	3
62	2D Materials: Rotationâ€Misfitâ€Free Heteroepitaxial Stacking and Stitching Growth of Hexagonal Transitionâ€Metal Dichalcogenide Monolayers by Nucleation Kinetics Controls (Adv. Mater. 25/2015). Advanced Materials, 2015, 27, 3839-3839.	11.1	2
63	Photocurrent Engineering of Silicon Nanowire Fieldâ€Effect Transistors by Ultrathin Poly(3â€hexylthiophene). Advanced Materials Interfaces, 2018, 5, 1801270.	1.9	2
64	Terahertz-driven hot Dirac fermion and plasmon dynamics in the bulk-insulating topological insulator <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Bi</mml:mi><mml:mn>2</mml:mn></mml:m Physical Review B, 2022, 105, .	1.1	2
65	Selfâ€Powered Gas Sensors: 2D Transition Metal Dichalcogenide Heterostructures for pâ€•and nâ€Type Photovoltaic Selfâ€Powered Gas Sensor (Adv. Funct. Mater. 43/2020). Advanced Functional Materials, 2020, 30, 2070284.	7.8	1
66	Ultrafast refractive index control of terahertz graphene metamaterials. , 2013, , .		0
67	Observation of the mid-infrared 1s intraexcitonic dynamics in monolayer MoS<inf>2</inf>. , 2015, , .		0
68	Ultrafast mid-infrared investigations on the surface Dirac fermions with topological phase transition. , 2015, , .		0
69	Giant modulation depth in the photoexcited topological surface plasmons exceeding 2,400 %. , 2015, , .		0
70	Photoinduced nonlinear mixing of terahertz dipole resonances in graphene metadevice. , 2015, , .		0
71	Ultrafast mid-infrared intraexcitonic spectroscopy of monolayer MoS2. , 2015, , .		0
72	Metamaterials: Electromagnetically Induced Transparency Analogue by Self-Complementary Terahertz Meta-Atom (Advanced Optical Materials 4/2016). Advanced Optical Materials, 2016, 4, 490-490.	3.6	0

#	Article	IF	Citations
73	Ultrafast Manipulation of Terahertz Waves using Graphene Metamaterials. , 2017, , 295-322.		0
74	Terahertz Metamaterials: Electrically Controllable Molecularization of Terahertz Meta-Atoms (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 11.1		0
75	Hybridization of anti-dipole plasmon oscillation and phonon in the topological insulator Bi2Se3. , 2016, , .		0
76	Ultrafast optical control of plasmon-phonon interaction using topological phase transition in (Bi1-xInx)2Se3. , 2016, , .		0
77	Electric Control over 2D Dirac Plasmon Resonances in Topological Insulator Bi2Se3 in Proximity Contact with Graphene. , 2019, , .		0
78	Terahertz Spectroscopy of Dirac Plasmons: Graphene and Topological Insulators. , 2019, , .		0
79	Spin and charge dynamics across topological heterojunction in monolayer 1T-WTe2. , 2019, , .		0
80	Optoelectronic valley-locked spin photocurrent generation using WSe2-Bi2Se3 heterostructure. , 2019, , .		0