

# Tomoki Machida

## List of Publications by Year in descending order

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Version: 2024-02-01

61  
papers

1,704  
citations

304368

22  
h-index

288905

40  
g-index

61  
all docs

61  
docs citations

61  
times ranked

2880  
citing authors

#	ARTICLE	IF	CITATIONS
1	Autonomous robotic searching and assembly of two-dimensional crystals to build van der Waals superlattices. Nature Communications, 2018, 9, 1413.	5.8	212
2	Cubic Rashba Spin-Orbit Interaction of a Two-Dimensional Hole Gas in a Strained- $\text{Ge/SiGe}$ Quantum Well. Physical Review Letters, 2014, 113, 086601.	2.9	110
3	Large current modulation in exfoliated-graphene/MoS <sub>2</sub> /metal vertical heterostructures. Applied Physics Letters, 2014, 105, .	1.5	106
4	Electrical Spin Injection into Graphene through Monolayer Hexagonal Boron Nitride. Applied Physics Express, 2013, 6, 073001.	1.1	92
5	Suppression of exciton-exciton annihilation in tungsten disulfide monolayers encapsulated by hexagonal boron nitrides. Physical Review B, 2017, 95, .	1.1	92
6	Deep-learning-based image segmentation integrated with optical microscopy for automatically searching for two-dimensional materials. Npj 2D Materials and Applications, 2020, 4, .	3.9	86
7	Electric field modulation of Schottky barrier height in graphene/MoSe <sub>2</sub> van der Waals heterointerface. Applied Physics Letters, 2015, 107, .	1.5	78
8	Atomic Force Microscopy Based Tunable Local Anodic Oxidation of Graphene. Nano Letters, 2011, 11, 4542-4546.	4.5	68
9	Supercurrent in van der Waals Josephson junction. Nature Communications, 2016, 7, 10616.	5.8	65
10	Classifying optical microscope images of exfoliated graphene flakes by data-driven machine learning. Npj 2D Materials and Applications, 2019, 3, .	3.9	64
11	Dry release transfer of graphene and few-layer h-BN by utilizing thermoplasticity of polypropylene carbonate. Npj 2D Materials and Applications, 2019, 3, .	3.9	60
12	Boundary Scattering in Ballistic Graphene. Physical Review Letters, 2012, 109, 036601.	2.9	47
13	Construction of van der Waals magnetic tunnel junction using ferromagnetic layered dichalcogenide. Applied Physics Letters, 2015, 107, .	1.5	47
14	Exfoliation and van der Waals heterostructure assembly of intercalated ferromagnet Cr <sub>1/3</sub> TaS <sub>2</sub> . 2D Materials, 2017, 4, 041007.	2.0	41
15	Assembly of van der Waals heterostructures: exfoliation, searching, and stacking of 2D materials. Japanese Journal of Applied Physics, 2020, 59, 010101.	0.8	41
16	3D Manipulation of 2D Materials Using Microdome Polymer. Nano Letters, 2020, 20, 2486-2492.	4.5	38
17	Tunneling transport in a few monolayer-thick WS <sub>2</sub> /graphene heterojunction. Applied Physics Letters, 2014, 105, .	1.5	36
18	N- and p-type carrier injections into WSe <sub>2</sub> with van der Waals contacts of two-dimensional materials. Japanese Journal of Applied Physics, 2017, 56, 04CK09.	0.8	31

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19	Imaging ballistic carrier trajectories in graphene using scanning gate microscopy. Applied Physics Letters, 2015, 107, 243102.	1.5	30
20	Edge-channel interferometer at the graphene quantum Hall pn junction. Applied Physics Letters, 2015, 106, .	1.5	29
21	Modulation of Schottky barrier height in graphene/MoS <sub>2</sub> /metal vertical heterostructure with large current ON/OFF ratio. Japanese Journal of Applied Physics, 2015, 54, 04DJ04.	0.8	27
22	Influence of the density of states of graphene on the transport properties of graphene/MoS <sub>2</sub> /metal vertical field-effect transistors. Applied Physics Letters, 2015, 106, .	1.5	26
23	Superconducting proximity effect in a $\text{NbSe}_2$ van der Waals junction. Physical Review B, 2020, 101, .	2.1	11
24	Fabrication and Characterization of High-Mobility Graphene $n$ - $p$ Junctions Encapsulated by Hexagonal Boron Nitride. Japanese Journal of Applied Physics, 2013, 52, 110105.	0.8	20
25	Hexagonal Boron Nitride Synthesized at Atmospheric Pressure Using Metal Alloy Solvents: Evaluation as a Substrate for 2D Materials. Nano Letters, 2020, 20, 735-740.	4.5	16
26	Resonant Tunneling Due to van der Waals Quantum-Well States of Few-Layer WSe <sub>2</sub> in WSe <sub>2</sub> /h-BN/p <sup>+</sup> -MoS <sub>2</sub> Junction. Nano Letters, 2021, 21, 3929-3934.	4.5	16
27	Dirac fermion reflector by ballistic graphene sawtooth-shaped npn junctions. Semiconductor Science and Technology, 2017, 32, 045010.	1.0	15
28	Carbon-Rich Domain in Hexagonal Boron Nitride: Carrier Mobility Degradation and Anomalous Bending of the Landau Fan Diagram in Adjacent Graphene. Nano Letters, 2019, 19, 7282-7286.	4.5	15
29	Emergence of orbital angular moment at van Hove singularity in graphene/h-BN moiré superlattice. Nature Communications, 2020, 11, 5380.	5.8	15
30	Photovoltaic infrared photoresponse of the high-mobility graphene quantum Hall system due to cyclotron resonance. Physical Review B, 2013, 88, .	1.1	14
31	Optical coupling between atomically thin black phosphorus and a two dimensional photonic crystal nanocavity. Applied Physics Letters, 2017, 110, .	1.5	13
32	Intersubband Landau Level Couplings Induced by In-Plane Magnetic Fields in Trilayer Graphene. Physical Review Letters, 2017, 119, 186802.	2.9	11
33	Photo-thermoelectric detection of cyclotron resonance in asymmetrically carrier-doped graphene two-terminal device. Applied Physics Letters, 2018, 113, .	1.5	10
34	Carbon annealed HPHT-hexagonal boron nitride: Exploring defect levels using 2D materials combined through van der Waals interface. Carbon, 2020, 167, 785-791.	5.4	10
35	Observation of Half-Integer Quantum Hall Effect in Single-Layer Graphene Using Pulse Magnet. Journal of the Physical Society of Japan, 2008, 77, 113707.	0.7	9
36	Cyclotron Resonance Study of Monolayer Graphene under Double Moiré Potentials. Nano Letters, 2020, 20, 4566-4572.	4.5	9

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37	Low-temperature p-type ohmic contact to WSe <sub>2</sub> using p+-MoS <sub>2</sub> /WSe <sub>2</sub> van der Waals interface. Applied Physics Letters, 2020, 117, .	1.5	8
38	Rhenium dinitride: Carrier transport in a novel transition metal dinitride layered crystal. APL Materials, 2019, 7, 101103.	2.2	7
39	Dark-state impact on the exciton recombination of $WS_2$ monolayers as revealed by multi-timescale pump-probe spectroscopy. Physical Review B, 2020, 102, .		
40	Resonant Tunneling between Quantized Subbands in van der Waals Double Quantum Well Structure Based on Few-Layer WSe <sub>2</sub> . Nano Letters, 2022, 22, 4640-4645.	4.5	7
41	Dynamic Nuclear Polarization in a Quantum Hall Corbino Disk. Journal of the Physical Society of Japan, 2008, 77, 023710.	0.7	6
42	Switchable out-of-plane shift current in ferroelectric two-dimensional material CuInP <sub>2</sub> S <sub>6</sub> . Applied Physics Letters, 2022, 120, 013103.	1.5	6
43	Photo-Nernst detection of cyclotron resonance in partially irradiated graphene. Applied Physics Letters, 2019, 115, 153102.	1.5	5
44	Subband-resolved momentum-conserved resonant tunneling in monolayer graphene/h-BN/ABA-trilayer graphene small-twist-angle tunneling device. Applied Physics Letters, 2022, 120, 083102.	1.5	5
45	Odd-even layer-number effect of valence-band spin splitting in $WTe_2$ . Physical Review Research, 2022, 4, .		
46	Edge-Channel Transport of Dirac Fermions in Graphene Quantum Hall Junctions. Journal of the Physical Society of Japan, 2015, 84, 121007.	0.7	4
47	Electrical Control of Cyclotron Resonance in Dual-Gated Trilayer Graphene. Nano Letters, 2019, 19, 8097-8102.	4.5	4
48	Selective etching of hexagonal boron nitride by high-pressure CF <sub>4</sub> plasma for individual one-dimensional ohmic contacts to graphene layers. Applied Physics Letters, 2020, 117, .	1.5	4
49	Effect of a pick-and-drop process on optical properties of a CVD-grown monolayer tungsten disulfide. Physical Review Materials, 2018, 2, .	0.9	4
50	Dry pick-and-flip assembly of van der Waals heterostructures for microfocus angle-resolved photoemission spectroscopy. Scientific Reports, 2022, 12, .	1.6	4
51	Heat transfer at the van der Waals interface between graphene and NbSe <sub>2</sub> . Physical Review B, 2018, 98, .	1.1	3
52	Mid-infrared Photodetection Using Cyclotron Resonance in Graphene/h-BN van der Waals Heterostructures. Sensors and Materials, 2019, 31, 2281.	0.3	3
53	Detection of cyclotron resonance using photo-induced thermionic emission at graphene/MoS <sub>2</sub> van der Waals interface. Applied Physics Letters, 2019, 115, 143101.	1.5	1
54	Defect-assisted tunneling spectroscopy of electronic band structure in twisted bilayer graphene/hexagonal boron nitride moiré superlattices. Applied Physics Letters, 2022, 120, 203103.	1.5	1

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55	Coherent Carrier Transport in Graphene npn Junctions. Hyomen Kagaku, 2015, 36, 124-128.	0.0	0
56	van der Waals junctions of layered 2D materials for functional devices. , 2015, , .		0
57	Graphene/transition metal dichalcogenide/metal vertical heterostructure transistor with large current ON/OFF ratio. , 2015, , .		0
58	Vertical transport in graphene/transition metal dichalcogenide van der Waals heterostructure. , 2016, , .		0
59	Comparison of magnetoresistances of triangular and rectangular ballistic graphene npn junctions. Japanese Journal of Applied Physics, 2016, 55, 100305.	0.8	0
60	Probing many-body interactions in the cyclotron resonance of $h$ -BN/bilayer graphene/ $h$ -BN. Physical Review B, 2021, 104, .	1.1	0
61	Evaluation of polyvinyl chloride adhesion to 2D crystal flakes. Npj 2D Materials and Applications, 2022, 6, .	3.9	0