Manish Chhowalla

List of Publications by Year
in descending order

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105	45,007	17440	30087
papers	citations	63 h-index	103 g-index

108	108	108	45200
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The chemistry of two-dimensional layered transition metal dichalcogenide nanosheets. Nature Chemistry, 2013, 5, 263-275.	13.6	8,051
2	Photoluminescence from Chemically Exfoliated MoS₂. Nano Letters, 2011, 11, 5111-5116.	9.1	3,402
3	Liquid Exfoliation of Layered Materials. Science, 2013, 340, .	12.6	3,109
4	High-efficiency solution-processed perovskite solar cells with millimeter-scale grains. Science, 2015, 347, 522-525.	12.6	2,978
5	Enhanced catalytic activity in strained chemically exfoliated WS2 nanosheets for hydrogen evolution. Nature Materials, 2013, 12, 850-855.	27.5	2,326
6	Metallic 1T phase MoS2 nanosheets as supercapacitor electrode materials. Nature Nanotechnology, 2015, 10, 313-318.	31.5	2,278
7	Conducting MoS₂ Nanosheets as Catalysts for Hydrogen Evolution Reaction. Nano Letters, 2013, 13, 6222-6227.	9.1	1,948
8	Phase-engineered low-resistance contacts for ultrathin MoS2 transistors. Nature Materials, 2014, 13, 1128-1134.	27.5	1,463
9	Two-dimensional semiconductors for transistors. Nature Reviews Materials, 2016, 1, .	48.7	1,020
10	Phase engineering of transition metal dichalcogenides. Chemical Society Reviews, 2015, 44, 2702-2712.	38.1	915
11	Coherent Atomic and Electronic Heterostructures of Single-Layer MoS₂. ACS Nano, 2012, 6, 7311-7317.	14.6	806
12	The Role of Oxygen during Thermal Reduction of Graphene Oxide Studied by Infrared Absorption Spectroscopy. Journal of Physical Chemistry C, 2011, 115, 19761-19781.	3.1	776
13	Boron Carbide: Structure, Properties, and Stability under Stress. Journal of the American Ceramic Society, 2011, 94, 3605-3628.	3.8	772
14	Recent Strategies for Improving the Catalytic Activity of 2D TMD Nanosheets Toward the Hydrogen Evolution Reaction. Advanced Materials, 2016, 28, 6197-6206.	21.0	769
15	Two-dimensional transition metal dichalcogenide (TMD) nanosheets. Chemical Society Reviews, 2015, 44, 2584-2586.	38.1	699
16	The role of electronic coupling between substrate and 2D MoS2 nanosheets in electrocatalytic production of hydrogen. Nature Materials, 2016, 15, 1003-1009.	27.5	687
17	High-quality graphene via microwave reduction of solution-exfoliated graphene oxide. Science, 2016, 353, 1413-1416.	12.6	670
18	Covalent functionalization of monolayered transition metal dichalcogenides by phase engineering. Nature Chemistry, 2015, 7, 45-49.	13.6	637

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19	Low-dimensional catalysts for hydrogen evolution and CO2 reduction. Nature Reviews Chemistry, 2018, 2, .	30.2	631
20	Design, Synthesis, and Characterization of Grapheneâ€“Nanoparticle Hybrid Materials for Bioapplications. Chemical Reviews, 2015, 115, 2483-2531.	47.7	603
21	Light-activated photocurrent degradation and self-healing in perovskite solar cells. Nature Communications, 2016, 7, 11574.	12.8	584
22	Insulator to Semimetal Transition in Graphene Oxide. Journal of Physical Chemistry C, 2009, 113, 15768-15771.	3.1	577
23	Van der Waals contacts between three-dimensional metals and two-dimensional semiconductors. Nature, 2019, 568, 70-74.	27.8	551
24	Best Practices for Reporting Electrocatalytic Performance of Nanomaterials. ACS Nano, 2018, 12, 9635-9638.	14.6	537
25	Conducting and transparent single-wall carbon nanotube electrodes for polymer-fullerene solar cells. Applied Physics Letters, 2005, 87, 203511.	3.3	480
26	Production of Twoâ€Dimensional Nanomaterials via Liquidâ€Based Direct Exfoliation. Small, 2016, 12, 272-293.	10.0	407
27	Role of Sulfur Vacancies and Undercoordinated Mo Regions in MoS₂ Nanosheets toward the Evolution of Hydrogen. ACS Nano, 2019, 13, 6824-6834.	14.6	402
28	Transparent and conducting electrodes for organic electronics from reduced graphene oxide. Applied Physics Letters, 2008, 92, .	3.3	368
29	Molecularly thin two-dimensional hybrid perovskites with tunable optoelectronic properties due to reversible surface relaxation. Nature Materials, 2018, 17, 908-914.	27.5	295
30	Recent Advances in Design of Electrocatalysts for Highâ€Currentâ€Density Water Splitting. Advanced Materials, 2022, 34, e2108133.	21.0	293
31	Investigation of nanoscale morphological changes in organic photovoltaics during solvent vapor annealing. Journal of Materials Chemistry, 2008, 18, 306-312.	6.7	288
32	Structural and quantum-state phase transitions in van der Waals layered materials. Nature Physics, 2017, 13, 931-937.	16.7	280
33	Ultrahigh-current-density niobium disulfide catalysts for hydrogen evolution. Nature Materials, 2019, 18, 1309-1314.	27.5	280
34	Electron-Doped 1T-MoS₂ via Interface Engineering for Enhanced Electrocatalytic Hydrogen Evolution. Chemistry of Materials, 2017, 29, 4738-4744.	6.7	270
35	Field emission from graphene based composite thin films. Applied Physics Letters, 2008, 93, .	3.3	258
36	Chemical vapour deposition. Nature Reviews Methods Primers, 2021, 1, .	21.2	244

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37	Improved conductivity of transparent single-wall carbon nanotube thin films via stable postdeposition functionalization. Applied Physics Letters, 2007, 90, 121913.	3.3	219
38	Metallic molybdenum disulfide nanosheet-based electrochemical actuators. Nature, 2017, 549, 370-373.	27.8	216
39	Revealing molecular-level surface redox sites of controllably oxidized black phosphorus nanosheets. Nature Materials, 2019, 18, 156-162.	27.5	215
40	A fullereneâ€“single wall carbon nanotube complex for polymer bulk heterojunction photovoltaic cells. Journal of Materials Chemistry, 2007, 17, 2406-2411.	6.7	190
41	Solutionâ€Processed MoS₂/Organolead Trihalide Perovskite Photodetectors. Advanced Materials, 2017, 29, 1603995.	21.0	187
42	Efficient hydrogen evolution in transition metal dichalcogenides via a simple one-step hydrazine reaction. Nature Communications, 2016, 7, 11857.	12.8	179
43	Ultralow-dielectric-constant amorphous boron nitride. Nature, 2020, 582, 511-514.	27.8	173
44	From bulk to molecularly thin hybrid perovskites. Nature Reviews Materials, 2020, 5, 482-500.	48.7	164
45	Metallic 1T phase source/drain electrodes for field effect transistors from chemical vapor deposited MoS2. APL Materials, 2014, 2, .	5.1	155
46	Photoelectrochemical properties of chemically exfoliated MoS2. Journal of Materials Chemistry A, 2013, 1, 8935.	10.3	137
47	Recent developments in 2D transition metal dichalcogenides: phase transition and applications of the (quasi-)metallic phases. Chemical Society Reviews, 2021, 50, 10087-10115.	38.1	135
48	Water-resistant perovskite nanodots enable robust two-photon lasing in aqueous environment. Nature Communications, 2020, 11, 1192.	12.8	123
49	Plasma-Assisted Reduction of Graphene Oxide at Low Temperature and Atmospheric Pressure for Flexible Conductor Applications. Journal of Physical Chemistry Letters, 2012, 3, 772-777.	4.6	122
50	Single Atomic Vacancy Catalysis. ACS Nano, 2019, 13, 9958-9964.	14.6	111
51	Enzymatic Biodegradability of Pristine and Functionalized Transition Metal Dichalcogenide MoS₂ Nanosheets. Advanced Functional Materials, 2017, 27, 1605176.	14.9	109
52	Ferroelectricity in untwisted heterobilayers of transition metal dichalcogenides. Science, 2022, 376, 973-978.	12.6	105
53	Epitaxial single-crystal hexagonal boron nitride multilayers on Ni (111). Nature, 2022, 606, 88-93.	27.8	97
54	Flexible organic photovoltaics from zinc oxide nanowires grown on transparent and conducting single walled carbon nanotube thin films. Journal of Materials Chemistry, 2008, 18, 5909.	6.7	94

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55	Making clean electrical contacts on 2D transition metal dichalcogenides. Nature Reviews Physics, 2022, 4, 101-112.	26.6	91
56	Smart textile lighting/display system with multifunctional fibre devices for large scale smart home and IoT applications. Nature Communications, 2022, 13, 814.	12.8	80
57	2021 roadmap on lithium sulfur batteries. JPhys Energy, 2021, 3, 031501.	5.3	74
58	Phase-engineered transition-metal dichalcogenides for energy and electronics. MRS Bulletin, 2015, 40, 585-591.	3.5	71
59	Ultrafast Charge Transfer and Enhanced Absorption in MoS₂â€“Organic van der Waals Heterojunctions Using Plasmonic Metasurfaces. ACS Nano, 2016, 10, 9899-9908.	14.6	71
60	3.4% Solarâ€toâ€Ammonia Efficiency from Nitrate Using Fe Single Atomic Catalyst Supported on MoS₂ Nanosheets. Advanced Functional Materials, 2022, 32, .	14.9	71
61	Electronic Polarizability as the Fundamental Variable in the Dielectric Properties of Two-Dimensional Materials. Nano Letters, 2020, 20, 841-851.	9.1	70
62	Copper nanoparticles stabilized by reduced graphene oxide for CO2 reduction reaction. Materials for Renewable and Sustainable Energy, 2015, 4, 1.	3.6	68
63	Reduced Graphene Oxide Thin Films as Ultrabarriers for Organic Electronics. Advanced Energy Materials, 2014, 4, 1300986.	19.5	59
64	Direct white light emission from inorganicâ€“organic hybrid semiconductor bulk materials. Journal of Materials Chemistry, 2010, 20, 10676.	6.7	58
65	N-doped ordered mesoporous carbons with improved charge storage capacity by tailoring N-dopant density with solvent-assisted synthesis. Journal of Materials Chemistry A, 2014, 2, 15181-15190.	10.3	50
66	Ultrahigh Ptâ€Massâ€Activity Hydrogen Evolution Catalyst Electrodeposited from Bulk Pt. Advanced Functional Materials, 2022, 32, .	14.9	50
67	Zinc oxide nanowire networks for macroelectronic devices. Applied Physics Letters, 2009, 94, .	3.3	49
68	Optoelectronic properties of transparent and conducting single-wall carbon nanotube thin films. Applied Physics Letters, 2006, 88, 191919.	3.3	47
69	N- and O-doped mesoporous carbons derived from rice grains: efficient metal-free electrocatalysts for hydrazine oxidation. Chemical Communications, 2016, 52, 13588-13591.	4.1	45
70	Graphene oxide gate dielectric for graphene-based monolithic field effect transistors. Applied Physics Letters, 2013, 102, .	3.3	43
71	Modification of transparent and conducting single wall carbon nanotube thin films via bromine functionalization. Applied Physics Letters, 2007, 90, 092114.	3.3	42
72	Dynamically tuned non-classical light emission from atomic defects in hexagonal boron nitride. Communications Physics, 2019, 2, .	5.3	35

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73	Photocatalytic performance of Sn-doped TiO2/reduced graphene oxide composite materials. Applied Catalysis A: General, 2014, 473, 21-30.	4.3	34
74	InÂSitu Scanning Transmission Electron Microscopy Observations of Fracture at the Atomic Scale. Physical Review Letters, 2020, 125, 246102.	7.8	34
75	In Situ Monitoring of Structural Changes in Boron Carbide Under Electric Fields. Journal of the American Ceramic Society, 2008, 91, 2666-2669.	3.8	33
76	Engineering Chemically Exfoliated Largeâ€Area Twoâ€Dimensional MoS₂ Nanolayers with Porphyrins for Improved Light Harvesting. ChemPhysChem, 2016, 17, 2854-2862.	2.1	32
77	Effects Of Structural Phase Transition On Thermoelectric Performance in Lithium-Intercalated Molybdenum Disulfide (Li_xMoS₂). ACS Applied Materials & Interfaces, 2019, 11, 12184-12189.	8.0	31
78	Synthesis and characterization of cadmium hydroxide nanowires by arc discharge method in de-ionized water. Journal of Nanoparticle Research, 2011, 13, 4673-4680.	1.9	28
79	Non-Polar and Complementary Resistive Switching Characteristics in Graphene Oxide devices with Gold Nanoparticles: Diverse Approach for Device Fabrication. Scientific Reports, 2019, 9, 15103.	3.3	28
80	Quantum Transport in Two-Dimensional WS₂ with High-Efficiency Carrier Injection through Indium Alloy Contacts. ACS Nano, 2020, 14, 13700-13708.	14.6	26
81	Visualizing the metal- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Mo</mml:mi><mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> contacts in two-dimensional field-effect transistors with atomic resolution. Physical Review Materials, 2019, 3, .	2.4	25
82	Slow Release Nanofertilizers for Bumper Crops. ACS Central Science, 2017, 3, 156-157.	11.3	23
83	Charge transfer dynamics in conjugated polymer/MoS₂organic/2D heterojunctions. Molecular Systems Design and Engineering, 2019, 4, 929-938.	3.4	18
84	Topological phase change transistors based on tellurium Weyl semiconductor. Science Advances, 2022, 8, .	10.3	17
85	Hierarchical macrochanneled layered titanates with â€œhouse-of-cardsâ€•type titanate nanosheets and their superior photocatalytic activity. Journal of Materials Chemistry A, 2013, 1, 7690.	10.3	16
86	Hyperbolic 3D architectures with 2D ceramics. Science, 2019, 363, 694-695.	12.6	16
87	Evidence of Rotational FrÃ¶hlich Coupling in Polaronic Trions. Physical Review Letters, 2020, 125, 086803.	7.8	14
88	Valenceâ€band electronic structure evolution of graphene oxide upon thermal annealing for optoelectronics. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 2380-2386.	1.8	13
89	Interfacial Oxygenâ€Driven Charge Localization and Plasmon Excitation in Unconventional Superconductors. Advanced Materials, 2020, 32, 2000153.	21.0	10
90	Biomimetic electro-oxidation of alkyl sulfides from exfoliated molybdenum disulfide nanosheets. Journal of Materials Chemistry A, 2020, 8, 25053-25060.	10.3	6

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91	Nitrogen and Phosphorus Coâ€doped Nanoporous Carbons from Phosphoprotein/Silica Selfâ€Assemblies for Energy Storage in Supercapacitors. ChemElectroChem, 2020, 7, 4773-4781.	3.4	6
92	Root Causes of the Performance of Boron Carbide Under Stress. Ceramic Engineering and Science Proceedings, 0, , 179-188.	0.1	5
93	Silicon Effect on the Hardness of r.f. Sputtered Bâ€“C:Si Amorphous Films. Plasma Processes and Polymers, 2009, 6, S141.	3.0	4
94	Themed issue on 2D materials. Journal of Materials Chemistry C, 2017, 5, 11156-11157.	5.5	4
95	Excitons: Modulation of New Excitons in Transition Metal Dichalcogenideâ€Perovskite Oxide System (Adv. Sci. 12/2019). Advanced Science, 2019, 6, 1970073.	11.2	3
96	Synthesis of metallic mixed 3R and 2H Nb_{1+x}S₂ nanoflakes by chemical vapor deposition. Faraday Discussions, 2021, 227, 332-340.	3.2	2
97	The Role of Multiple Polytypes in Determining the Catastrophic Failure of Boron Carbide at High Shock Velocities. Materials Research Society Symposia Proceedings, 2005, 904, 1.	0.1	1
98	Nanoscale Measurements in Organic Memory Devices from C60 in Insulating Polymers. Materials Research Society Symposia Proceedings, 2005, 905, 1.	0.1	1
99	Tutorials and Articles on Best Practices. ACS Nano, 2020, 14, 10751-10753.	14.6	1
100	Reply to: On the measured dielectric constant of amorphous boron nitride. Nature, 2021, 590, E8-E10.	27.8	1
101	Growing Contributions of Nano in 2020. ACS Nano, 2020, 14, 16163-16164.	14.6	1
102	3.4% Solarâ€toâ€Ammonia Efficiency from Nitrate Using Fe Single Atomic Catalyst Supported on MoS₂ Nanosheets (Adv. Funct. Mater. 18/2022). Advanced Functional Materials, 2022, 32, .	14.9	1
103	Bionanotechnology: Axonal Alignment and Enhanced Neuronal Differentiation of Neural Stem Cells on Graphene-Nanoparticle Hybrid Structures (Adv. Mater. 38/2013). Advanced Materials, 2013, 25, 5476-5476.	21.0	0
104	Cuprate Thin Films: Interfacial Oxygenâ€Driven Charge Localization and Plasmon Excitation in Unconventional Superconductors (Adv. Mater. 34/2020). Advanced Materials, 2020, 32, 2070257.	21.0	0
105	Tanks and Truth. ACS Nano, 2022, 16, 4975-4976.	14.6	0