Manish Chhowalla

List of Publications by Citations

99 papers	35,487 citations	52 h-index	108 g-index
108 ext. papers	40,240 ext. citations	18.1 avg, IF	7.66 L-index

#	Paper	IF	Citations
99	The chemistry of two-dimensional layered transition metal dichalcogenide nanosheets. *Nature Chemistry*, **2013**, 5, 263-75	17.6	6689
98	Photoluminescence from chemically exfoliated MoS2. *Nano Letters*, **2011**, 11, 5111-6	11.5	2897
97	Liquid Exfoliation of Layered Materials. *Science*, **2013**, 340, 1226419-1226419	33.3	2604
96	Solar cells. High-efficiency solution-processed perovskite solar cells with millimeter-scale grains. *Science*, **2015**, 347, 522-5	33.3	2602
95	Enhanced catalytic activity in strained chemically exfoliated WS nanosheets for hydrogen evolution. *Nature Materials*, **2013**, 12, 850-5	27	2039
94	Metallic 1T phase MoS2 nanosheets as supercapacitor electrode materials. *Nature Nanotechnology*, **2015**, 10, 313-8	28.7	1800
93	Conducting MoS nanosheets as catalysts for hydrogen evolution reaction. *Nano Letters*, **2013**, 13, 6222-7	11.5	1613
92	Phase-engineered low-resistance contacts for ultrathin MoS2 transistors. *Nature Materials*, **2014**, 13, 1128-34	27	1153
91	Coherent atomic and electronic heterostructures of single-layer MoS2. *ACS Nano*, **2012**, 6, 7311-7	16.7	696
90	Two-dimensional semiconductors for transistors. *Nature Reviews Materials*, **2016**, 1,	73.3	670
89	Phase engineering of transition metal dichalcogenides. *Chemical Society Reviews*, **2015**, 44, 2702-12	58.5	655
88	The Role of Oxygen during Thermal Reduction of Graphene Oxide Studied by Infrared Absorption Spectroscopy. *Journal of Physical Chemistry C*, **2011**, 115, 19761-19781	3.8	641
87	Recent Strategies for Improving the Catalytic Activity of 2D TMD Nanosheets Toward the Hydrogen Evolution Reaction. *Advanced Materials*, **2016**, 28, 6197-206	24	630
86	Boron Carbide: Structure, Properties, and Stability under Stress. *Journal of the American Ceramic Society*, **2011**, 94, 3605-3628	3.8	604
85	The role of electronic coupling between substrate and 2D MoS2 nanosheets in electrocatalytic production of hydrogen. *Nature Materials*, **2016**, 15, 1003-9	27	549
84	Covalent functionalization of monolayered transition metal dichalcogenides by phase engineering. *Nature Chemistry*, **2015**, 7, 45-9	17.6	524
83	High-quality graphene via microwave reduction of solution-exfoliated graphene oxide. *Science*, **2016**, 353, 1413-1416	33.3	521

82	Design, synthesis, and characterization of graphene-nanoparticle hybrid materials for bioapplications. *Chemical Reviews*, **2015**, 115, 2483-531	68.1	514
81	Insulator to Semimetal Transition in Graphene Oxide. *Journal of Physical Chemistry C*, **2009**, 113, 15768-15771	4.8	504
80	Light-activated photocurrent degradation and self-healing in perovskite solar cells. *Nature Communications*, **2016**, 7, 11574	17.4	461
79	Low-dimensional catalysts for hydrogen evolution and CO2 reduction. *Nature Reviews Chemistry*, **2018**, 2,	34.6	441
78	Conducting and transparent single-wall carbon nanotube electrodes for polymer-fullerene solar cells. *Applied Physics Letters*, **2005**, 87, 203511	3.4	440
77	Production of Two-Dimensional Nanomaterials via Liquid-Based Direct Exfoliation. *Small*, **2016**, 12, 272-93	11	339
76	Transparent and conducting electrodes for organic electronics from reduced graphene oxide. *Applied Physics Letters*, **2008**, 92, 233305	3.4	336
75	Van der Waals contacts between three-dimensional metals and two-dimensional semiconductors. *Nature*, **2019**, 568, 70-74	50.4	293
74	Investigation of nanoscale morphological changes in organic photovoltaics during solvent vapor annealing. *Journal of Materials Chemistry*, **2008**, 18, 306-312		269
73	Role of Sulfur Vacancies and Undercoordinated Mo Regions in MoS Nanosheets toward the Evolution of Hydrogen. *ACS Nano*, **2019**, 13, 6824-6834	16.7	229
72	Field emission from graphene based composite thin films. *Applied Physics Letters*, **2008**, 93, 233502	3.4	226
71	Molecularly thin two-dimensional hybrid perovskites with tunable optoelectronic properties due to reversible surface relaxation. *Nature Materials*, **2018**, 17, 908-914	27	207
70	Improved conductivity of transparent single-wall carbon nanotube thin films via stable postdeposition functionalization. *Applied Physics Letters*, **2007**, 90, 121913	3.4	203
69	Electron-Doped 1T-MoS2 via Interface Engineering for Enhanced Electrocatalytic Hydrogen Evolution. *Chemistry of Materials*, **2017**, 29, 4738-4744	9.6	200
68	Structural and quantum-state phase transitions in van der Waals layered materials. *Nature Physics*, **2017**, 13, 931-937	16.2	187
67	A fullerene–single wall carbon nanotube complex for polymer bulk heterojunction photovoltaic cells. *Journal of Materials Chemistry*, **2007**, 17, 2406-2411		182
66	Metallic molybdenum disulfide nanosheet-based electrochemical actuators. *Nature*, **2017**, 549, 370-373	50.4	162
65	Efficient hydrogen evolution in transition metal dichalcogenides via a simple one-step hydrazine reaction. *Nature Communications*, **2016**, 7, 11857	17.4	154

64	Revealing molecular-level surface redox sites of controllably oxidized black phosphorus nanosheets. *Nature Materials*, **2019**, 18, 156-162	27	150
63	Solution-Processed MoS /Organolead Trihalide Perovskite Photodetectors. *Advanced Materials*, **2017**, 29, 1603995	24	149
62	Ultrahigh-current-density niobium disulfide catalysts for hydrogen evolution. *Nature Materials*, **2019**, 18, 1309-1314	27	148
61	Metallic 1T phase source/drain electrodes for field effect transistors from chemical vapor deposited MoS2. *APL Materials*, **2014**, 2, 092516	5.7	126
60	Photoelectrochemical properties of chemically exfoliated MoS2. *Journal of Materials Chemistry A*, **2013**, 1, 8935	13	124
59	Plasma-Assisted Reduction of Graphene Oxide at Low Temperature and Atmospheric Pressure for Flexible Conductor Applications. *Journal of Physical Chemistry Letters*, **2012**, 3, 772-7	6.4	109
58	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		84
57	Enzymatic Biodegradability of Pristine and Functionalized Transition Metal Dichalcogenide MoS2 Nanosheets. *Advanced Functional Materials*, **2017**, 27, 1605176	15.6	81
56	From bulk to molecularly thin hybrid perovskites. *Nature Reviews Materials*, **2020**, 5, 482-500	73.3	80
55	Chemical vapour deposition. *Nature Reviews Methods Primers*, **2021**, 1,		80
54	Two-Dimensional Hybrid Nanosheets of Tungsten Disulfide and Reduced Graphene Oxide as Catalysts for Enhanced Hydrogen Evolution. *Angewandte Chemie*, **2013**, 125, 13996-13999	3.6	69
53	Ultralow-dielectric-constant amorphous boron nitride. *Nature*, **2020**, 582, 511-514	50.4	68
52	Water-resistant perovskite nanodots enable robust two-photon lasing in aqueous environment. *Nature Communications*, **2020**, 11, 1192	17.4	65
51	Single Atomic Vacancy Catalysis. *ACS Nano*, **2019**, 13, 9958-9964	16.7	57
50	Ultrafast Charge Transfer and Enhanced Absorption in MoS-Organic van der Waals Heterojunctions Using Plasmonic Metasurfaces. *ACS Nano*, **2016**, 10, 9899-9908	16.7	55
49	Copper nanoparticles stabilized by reduced graphene oxide for CO2 reduction reaction. *Materials for Renewable and Sustainable Energy*, **2015**, 4, 1	4.7	49
48	Reduced Graphene Oxide Thin Films as Ultrabarriers for Organic Electronics. *Advanced Energy Materials*, **2014**, 4, 1300986	21.8	49
47	Phase-engineered transition-metal dichalcogenides for energy and electronics. *MRS Bulletin*, **2015**, 40, 585-591	3.2	49

46	Direct white light emission from inorganic□rganic hybrid semiconductor bulk materials. *Journal of Materials Chemistry*, **2010**, 20, 10676		49
45	Optoelectronic properties of transparent and conducting single-wall carbon nanotube thin films. *Applied Physics Letters*, **2006**, 88, 191919	3.4	46
44	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	13	45
43	Zinc oxide nanowire networks for macroelectronic devices. *Applied Physics Letters*, **2009**, 94, 163501	3.4	45
42	Recent Advances in Design of Electrocatalysts for High-Current-Density Water Splitting. *Advanced Materials*, **2021**, e2108133	24	43
41	Modification of transparent and conducting single wall carbon nanotube thin films via bromine functionalization. *Applied Physics Letters*, **2007**, 90, 092114	3.4	42
40	Graphene oxide gate dielectric for graphene-based monolithic field effect transistors. *Applied Physics Letters*, **2013**, 102, 133108	3.4	37
39	N- and O-doped mesoporous carbons derived from rice grains: efficient metal-free electrocatalysts for hydrazine oxidation. *Chemical Communications*, **2016**, 52, 13588-13591	5.8	33
38	2021 roadmap on lithium sulfur batteries. *JPhys Energy*, **2021**, 3, 031501	4.9	32
37	Electronic Polarizability as the Fundamental Variable in the Dielectric Properties of Two-Dimensional Materials. *Nano Letters*, **2020**, 20, 841-851	11.5	31
36	Photocatalytic performance of Sn-doped TiO2/reduced graphene oxide composite materials. *Applied Catalysis A: General*, **2014**, 473, 21-30	5.1	29
35	In Situ Monitoring of Structural Changes in Boron Carbide Under Electric Fields. *Journal of the American Ceramic Society*, **2008**, 91, 2666-2669	3.8	29
34	Tunable Photoluminescence from Graphene Oxide. *Angewandte Chemie*, **2012**, 124, 6766-6770	3.6	28
33	Engineering Chemically Exfoliated Large-Area Two-Dimensional MoS2 Nanolayers with Porphyrins for Improved Light Harvesting. *ChemPhysChem*, **2016**, 17, 2854-62	3.2	25
32	Recent developments in 2D transition metal dichalcogenides: phase transition and applications of the (quasi-)metallic phases. *Chemical Society Reviews*, **2021**, 50, 10087-10115	58.5	25
31	Synthesis and characterization of cadmium hydroxide nanowires by arc discharge method in de-ionized water. *Journal of Nanoparticle Research*, **2011**, 13, 4673-4680	2.3	23
30	Dynamically tuned non-classical light emission from atomic defects in hexagonal boron nitride. *Communications Physics*, **2019**, 2,	5.4	21
29	Effects Of Structural Phase Transition On Thermoelectric Performance in Lithium-Intercalated Molybdenum Disulfide (Li MoS). *ACS Applied Materials & Interfaces*, **2019**, 11, 12184-12189	9.5	20

28	In Situ Scanning Transmission Electron Microscopy Observations of Fracture at the Atomic Scale. *Physical Review Letters*, **2020**, 125, 246102	7.4	16
27	Non-Polar and Complementary Resistive Switching Characteristics in Graphene Oxide devices with Gold Nanoparticles: Diverse Approach for Device Fabrication. *Scientific Reports*, **2019**, 9, 15103	4.9	15
26	Making clean electrical contacts on 2D transition metal dichalcogenides. *Nature Reviews Physics*,	23.6	15
25	Hierarchical macrochanneled layered titanates with "house-of-cards"-type titanate nanosheets and their superior photocatalytic activity. *Journal of Materials Chemistry A*, **2013**, 1, 7690	13	14
24	3.4% Solar-to-Ammonia Efficiency from Nitrate Using Fe Single Atomic Catalyst Supported on MoS 2 Nanosheets. *Advanced Functional Materials*,2108316	15.6	14
23	Epitaxial single-crystal hexagonal boron nitride multilayers on Ni (111). *Nature*, **2022**, 606, 88-93	50.4	14
22	Visualizing the metal-MoS2 contacts in two-dimensional field-effect transistors with atomic resolution. *Physical Review Materials*, **2019**, 3,	3.2	13
21	Charge transfer dynamics in conjugated polymer/MoS2 organic/2D heterojunctions. *Molecular Systems Design and Engineering*, **2019**, 4, 929-938	4.6	11
20	Smart textile lighting/display system with multifunctional fibre devices for large scale smart home and IoT applications.. *Nature Communications*, **2022**, 13, 814	17.4	8
19	Evidence of Rotational Fröhlich Coupling in Polaronic Trions. *Physical Review Letters*, **2020**, 125, 086803	7.4	8
18	Hyperbolic 3D architectures with 2D ceramics. *Science*, **2019**, 363, 694-695	33.3	8
17	Ultrahigh Pt-Mass-Activity Hydrogen Evolution Catalyst Electrodeposited from Bulk Pt. *Advanced Functional Materials*,2112207	15.6	8
16	Quantum Transport in Two-Dimensional WS with High-Efficiency Carrier Injection through Indium Alloy Contacts. *ACS Nano*, **2020**, 14, 13700-13708	16.7	7
15	Valence-band electronic structure evolution of graphene oxide upon thermal annealing for optoelectronics. *Physica Status Solidi (A) Applications and Materials Science*, **2016**, 213, 2380-2386	1.6	7
14	Ferroelectricity in untwisted heterobilayers of transition metal dichalcogenides. *Science*, **2022**, 376, 973-978	33.3	7
13	Interfacial Oxygen-Driven Charge Localization and Plasmon Excitation in Unconventional Superconductors. *Advanced Materials*, **2020**, 32, e2000153	24	6
12	Silicon Effect on the Hardness of r.f. Sputtered B:Si Amorphous Films. *Plasma Processes and Polymers*, **2009**, 6, S141-S145	3.4	4
11	Root Causes of the Performance of Boron Carbide Under Stress. *Ceramic Engineering and Science Proceedings*,179-188	0.1	4

10	Excitons: Modulation of New Excitons in Transition Metal Dichalcogenide-Perovskite Oxide System (Adv. Sci. 12/2019). *Advanced Science*, **2019**, 6, 1970073	13.6	2
9	Biomimetic electro-oxidation of alkyl sulfides from exfoliated molybdenum disulfide nanosheets. *Journal of Materials Chemistry A*, **2020**, 8, 25053-25060	13	2
8	Nitrogen and Phosphorus Co-doped Nanoporous Carbons from Phosphoprotein/Silica Self-Assemblies for Energy Storage in Supercapacitors. *ChemElectroChem*, **2020**, 7, 4773-4781	4.3	2
7	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		1
6	Nanoscale Measurements Nanoscale Measurements in Organic Memory Devices from C60 in Insulating Polymers. *Materials Research Society Symposia Proceedings*, **2005**, 905, 1		1
5	Reply to: On the measured dielectric constant of amorphous boron nitride. *Nature*, **2021**, 590, E8-E10	50.4	1
4	Synthesis of metallic mixed 3R and 2H NbS nanoflakes by chemical vapor deposition. *Faraday Discussions*, **2021**, 227, 332-340	3.6	0
3	3.4% Solar-to-Ammonia Efficiency from Nitrate Using Fe Single Atomic Catalyst Supported on MoS 2 Nanosheets (Adv. Funct. Mater. 18/2022). *Advanced Functional Materials*, **2022**, 32, 2270106	15.6	0
2	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	24	
1	Cuprate Thin Films: Interfacial Oxygen-Driven Charge Localization and Plasmon Excitation in Unconventional Superconductors (Adv. Mater. 34/2020). *Advanced Materials*, **2020**, 32, 2070257	24	