

# Andras Kis

## List of Publications by Citations

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120  
papers

47,768  
citations

61  
h-index

128  
g-index

128  
ext. papers

54,450  
ext. citations

14.8  
avg, IF

7.99  
L-index

#	Paper	IF	Citations
120	Electronics and optoelectronics of two-dimensional transition metal dichalcogenides. <i>Nature Nanotechnology</i> , <b>2012</b> , 7, 699-712	28.7	10871
119	Single-layer MoS <sub>2</sub> transistors. <i>Nature Nanotechnology</i> , <b>2011</b> , 6, 147-50	28.7	10521
118	Ultrasensitive photodetectors based on monolayer MoS <sub>2</sub> . <i>Nature Nanotechnology</i> , <b>2013</b> , 8, 497-501	28.7	3412
117	2D transition metal dichalcogenides. <i>Nature Reviews Materials</i> , <b>2017</b> , 2,	73.3	2213
116	Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. <i>Nanoscale</i> , <b>2015</b> , 7, 4598-810	7.7	2015
115	Stretching and breaking of ultrathin MoS <sub>2</sub> . <i>ACS Nano</i> , <b>2011</b> , 5, 9703-9	16.7	1672
114	Mobility engineering and a metal-insulator transition in monolayer MoS <sub>2</sub> . <i>Nature Materials</i> , <b>2013</b> , 12, 815-20	27	1265
113	Integrated circuits and logic operations based on single-layer MoS <sub>2</sub> . <i>ACS Nano</i> , <b>2011</b> , 5, 9934-8	16.7	1027
112	Electrical contacts to two-dimensional semiconductors. <i>Nature Materials</i> , <b>2015</b> , 14, 1195-205	27	980
111	Nonvolatile memory cells based on MoS <sub>2</sub> /graphene heterostructures. <i>ACS Nano</i> , <b>2013</b> , 7, 3246-52	16.7	762
110	Large-Area Epitaxial Monolayer MoS <sub>2</sub> . <i>ACS Nano</i> , <b>2015</b> , 9, 4611-20	16.7	583
109	Exciton dynamics in suspended monolayer and few-layer MoS <sub>2</sub> 2D crystals. <i>ACS Nano</i> , <b>2013</b> , 7, 1072-80	16.7	581
108	Single-layer MoS <sub>2</sub> nanopores as nanopower generators. <i>Nature</i> , <b>2016</b> , 536, 197-200	50.4	560
107	Thermal conductivity of monolayer molybdenum disulfide obtained from temperature-dependent Raman spectroscopy. <i>ACS Nano</i> , <b>2014</b> , 8, 986-93	16.7	526
106	Optically active quantum dots in monolayer WSe <sub>2</sub> . <i>Nature Nanotechnology</i> , <b>2015</b> , 10, 491-6	28.7	500
105	Electrical transport properties of single-layer WS <sub>2</sub> . <i>ACS Nano</i> , <b>2014</b> , 8, 8174-81	16.7	488
104	Reinforcement of single-walled carbon nanotube bundles by intertube bridging. <i>Nature Materials</i> , <b>2004</b> , 3, 153-7	27	487

103	Valley Zeeman effect in elementary optical excitations of monolayer WSe2. <i>Nature Physics</i> , <b>2015</b> , 11, 141-147	16.2	477
102	Light generation and harvesting in a van der Waals heterostructure. <i>ACS Nano</i> , <b>2014</b> , 8, 3042-8	16.7	337
101	Visibility of dichalcogenide nanolayers. <i>Nanotechnology</i> , <b>2011</b> , 22, 125706	3.4	335
100	Atomically thin molybdenum disulfide nanopores with high sensitivity for DNA translocation. <i>ACS Nano</i> , <b>2014</b> , 8, 2504-11	16.7	333
99	Single-layer MoS2 electronics. <i>Accounts of Chemical Research</i> , <b>2015</b> , 48, 100-10	24.3	329
98	A cell nanoinjector based on carbon nanotubes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2007</b> , 104, 8218-22	11.5	325
97	Identification of single nucleotides in MoS2 nanopores. <i>Nature Nanotechnology</i> , <b>2015</b> , 10, 1070-6	28.7	319
96	Breakdown of high-performance monolayer MoS2 transistors. <i>ACS Nano</i> , <b>2012</b> , 6, 10070-5	16.7	314
95	Ripples and layers in ultrathin MoS2 membranes. <i>Nano Letters</i> , <b>2011</b> , 11, 5148-53	11.5	286
94	Detecting the translocation of DNA through a nanopore using graphene nanoribbons. <i>Nature Nanotechnology</i> , <b>2013</b> , 8, 939-45	28.7	285
93	Nanomechanics of microtubules. <i>Physical Review Letters</i> , <b>2002</b> , 89, 248101	7.4	276
92	Electron and hole mobilities in single-layer WSe2. <i>ACS Nano</i> , <b>2014</b> , 8, 7180-5	16.7	230
91	Piezoresistivity and Strain-induced Band Gap Tuning in Atomically Thin MoS2. <i>Nano Letters</i> , <b>2015</b> , 15, 5330-5	11.5	220
90	Room-temperature electrical control of exciton flux in a van der Waals heterostructure. <i>Nature</i> , <b>2018</b> , 560, 340-344	50.4	217
89	Interlayer forces and ultralow sliding friction in multiwalled carbon nanotubes. <i>Physical Review Letters</i> , <b>2006</b> , 97, 025501	7.4	212
88	High Responsivity, Large-Area Graphene/MoS2 Flexible Photodetectors. <i>ACS Nano</i> , <b>2016</b> , 10, 8252-62	16.7	206
87	Thickness-modulated metal-to-semiconductor transformation in a transition metal dichalcogenide. <i>Nature Communications</i> , <b>2018</b> , 9, 919	17.4	187
86	Small-signal amplifier based on single-layer MoS2. <i>Applied Physics Letters</i> , <b>2012</b> , 101, 043103	3.4	180

85	Production and processing of graphene and related materials. <i>2D Materials</i> , <b>2020</b> , 7, 022001	5.9	179
84	Atomic scale microstructure and properties of Se-deficient two-dimensional MoSe <sub>2</sub> . <i>ACS Nano</i> , <b>2015</b> , 9, 3274-83	16.7	176
83	Electrochemical Reaction in Single Layer MoS <sub>2</sub> : Nanopores Opened Atom by Atom. <i>Nano Letters</i> , <b>2015</b> , 15, 3431-8	11.5	162
82	Beta amyloid and hyperphosphorylated tau deposits in the pancreas in type 2 diabetes. <i>Neurobiology of Aging</i> , <b>2010</b> , 31, 1503-15	5.6	138
81	MoS <sub>2</sub> transistors operating at gigahertz frequencies. <i>Nano Letters</i> , <b>2014</b> , 14, 5905-11	11.5	137
80	Shrinking a carbon nanotube. <i>Nano Letters</i> , <b>2006</b> , 6, 2718-22	11.5	137
79	Beta-amyloid deposition and Alzheimer's type changes induced by Borrelia spirochetes. <i>Neurobiology of Aging</i> , <b>2006</b> , 27, 228-36	5.6	134
78	Polarization switching and electrical control of interlayer excitons in two-dimensional van der Waals heterostructures. <i>Nature Photonics</i> , <b>2019</b> , 13, 131-136	33.9	134
77	Suppressing Nucleation in Metal-Organic Chemical Vapor Deposition of MoS Monolayers by Alkali Metal Halides. <i>Nano Letters</i> , <b>2017</b> , 17, 5056-5063	11.5	131
76	MoS <sub>2</sub> and semiconductors in the flatland. <i>Materials Today</i> , <b>2015</b> , 18, 20-30	21.8	126
75	Observation of ionic Coulomb blockade in nanotubes. <i>Nature Materials</i> , <b>2016</b> , 15, 850-5	27	120
74	Shear and Young's Moduli of MoS <sub>2</sub> Nanotube Ropes. <i>Advanced Materials</i> , <b>2003</b> , 15, 733-736	24	108
73	Defect induced, layer-modulated magnetism in ultrathin metallic PtSe <sub>2</sub> . <i>Nature Nanotechnology</i> , <b>2019</b> , 14, 674-678	28.7	106
72	Logic-in-memory based on an atomically thin semiconductor. <i>Nature</i> , <b>2020</b> , 587, 72-77	50.4	94
71	Reply to Measurement of mobility in dual-gated MoS <sub>2</sub> transistors. <i>Nature Nanotechnology</i> , <b>2013</b> , 8, 147-88.7	88.7	93
70	Disorder engineering and conductivity dome in ReS <sub>2</sub> with electrolyte gating. <i>Nature Communications</i> , <b>2016</b> , 7, 12391	17.4	89
69	Nanomechanics of carbon nanotubes. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2008</b> , 366, 1591-611	3	87
68	Micro-reflectance and transmittance spectroscopy: a versatile and powerful tool to characterize 2D materials. <i>Journal Physics D: Applied Physics</i> , <b>2017</b> , 50, 074002	3	80

67	Valley Polarization by Spin Injection in a Light-Emitting van der Waals Heterojunction. <i>Nano Letters</i> , <b>2016</b> , 16, 5792-7	11.5	79
66	ssDNA binding reveals the atomic structure of graphene. <i>Langmuir</i> , <b>2010</b> , 26, 18078-82	4	75
65	Probing the Interlayer Exciton Physics in a MoS/MoSe/MoS van der Waals Heterostructure. <i>Nano Letters</i> , <b>2017</b> , 17, 6360-6365	11.5	74
64	Patterning metal contacts on monolayer MoS <sub>2</sub> with vanishing Schottky barriers using thermal nanolithography. <i>Nature Electronics</i> , <b>2019</b> , 2, 17-25	28.4	73
63	Mechanical properties of microtubules explored using the finite elements method. <i>ChemPhysChem</i> , <b>2004</b> , 5, 252-7	3.2	69
62	Light-Enhanced Blue Energy Generation Using MoS <sub>2</sub> Nanopores. <i>Joule</i> , <b>2019</b> , 3, 1549-1564	27.8	68
61	Valley-polarized exciton currents in a van der Waals heterostructure. <i>Nature Nanotechnology</i> , <b>2019</b> , 14, 1104-1109	28.7	63
60	Catalytically grown carbon nanotubes of small diameter have a high Young's modulus. <i>Nano Letters</i> , <b>2005</b> , 5, 2074-7	11.5	61
59	Large-area MoS <sub>2</sub> grown using H <sub>2</sub> S as the sulphur source. <i>2D Materials</i> , <b>2015</b> , 2, 044005	5.9	60
58	Geometrical Effect in 2D Nanopores. <i>Nano Letters</i> , <b>2017</b> , 17, 4223-4230	11.5	58
57	Magnetoexcitons in large area CVD-grown monolayer MoS <sub>2</sub> and MoSe <sub>2</sub> on sapphire. <i>Physical Review B</i> , <b>2016</b> , 93,	3.3	57
56	Oscillation modes of microtubules. <i>Biology of the Cell</i> , <b>2004</b> , 96, 697-700	3.5	56
55	Optospintronics in Graphene via Proximity Coupling. <i>ACS Nano</i> , <b>2017</b> , 11, 11678-11686	16.7	55
54	Electronic properties of transition-metal dichalcogenides. <i>MRS Bulletin</i> , <b>2015</b> , 40, 577-584	3.2	55
53	Thickness-dependent mobility in two-dimensional MoS <sub>2</sub> transistors. <i>Nanoscale</i> , <b>2015</b> , 7, 6255-60	7.7	54
52	Dark excitons and the elusive valley polarization in transition metal dichalcogenides. <i>2D Materials</i> , <b>2017</b> , 4, 025016	5.9	53
51	MoS <sub>2</sub> photodetectors integrated with photonic circuits. <i>Npj 2D Materials and Applications</i> , <b>2019</b> , 3,	8.8	53
50	Wafer-scale MOCVD growth of monolayer MoS <sub>2</sub> on sapphire and SiO <sub>2</sub> . <i>Nano Research</i> , <b>2019</b> , 12, 2646-2652	5.2	52

49	Long-term retention in organic ferroelectric-graphene memories. <i>Applied Physics Letters</i> , <b>2012</b> , 100, 023507	5.0	51
48	Highly Oriented Atomically Thin Ambipolar MoSe Grown by Molecular Beam Epitaxy. <i>ACS Nano</i> , <b>2017</b> , 11, 6355-6361	16.7	48
47	Direct fabrication of thin layer MoS <sub>2</sub> field-effect nanoscale transistors by oxidation scanning probe lithography. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 103503	3.4	45
46	Defect Healing and Charge Transfer-Mediated Valley Polarization in MoS/MoSe/MoS Trilayer van der Waals Heterostructures. <i>Nano Letters</i> , <b>2017</b> , 17, 4130-4136	11.5	44
45	Imaging the life story of nanotube devices. <i>Applied Physics Letters</i> , <b>2005</b> , 87, 083103	3.4	41
44	Buckling and kinking force measurements on individual multiwalled carbon nanotubes. <i>Physical Review B</i> , <b>2007</b> , 76,	3.3	40
43	Elastic modulus of multi-walled carbon nanotubes produced by catalytic chemical vapour deposition. <i>Applied Physics A: Materials Science and Processing</i> , <b>2005</b> , 80, 695-700	2.6	37
42	Electromechanical oscillations in bilayer graphene. <i>Nature Communications</i> , <b>2015</b> , 6, 8582	17.4	34
41	Large-grain MBE-grown GaSe on GaAs with a Mexican hat-like valence band dispersion. <i>Npj 2D Materials and Applications</i> , <b>2018</b> , 2,	8.8	34
40	Controlled placement of highly aligned carbon nanotubes for the manufacture of arrays of nanoscale torsional actuators. <i>Nanotechnology</i> , <b>2006</b> , 17, 434-438	3.4	34
39	Can 2D-Nanocrystals Extend the Lifetime of Floating-Gate Transistor Based Nonvolatile Memory?. <i>IEEE Transactions on Electron Devices</i> , <b>2014</b> , 61, 3456-3464	2.9	32
38	Probing magnetism in atomically thin semiconducting PtSe. <i>Nature Communications</i> , <b>2020</b> , 11, 4806	17.4	28
37	Resolving the spin splitting in the conduction band of monolayer MoS. <i>Nature Communications</i> , <b>2017</b> , 8, 1938	17.4	26
36	Nanomechanical investigation of Mo <sub>6</sub> S <sub>9-x</sub> Ix nanowire bundles. <i>Small</i> , <b>2007</b> , 3, 1544-8	11	25
35	Self-sensing, tunable monolayer MoS nanoelectromechanical resonators. <i>Nature Communications</i> , <b>2019</b> , 10, 4831	17.4	24
34	Mechanical and electronic properties of vanadium oxide nanotubes. <i>Journal of Applied Physics</i> , <b>2009</b> , 105, 074317	2.5	24
33	Wafer-Scale Fabrication of Nanopore Devices for Single-Molecule DNA Biosensing using MoS <sub>2</sub> . <i>Small Methods</i> , <b>2020</b> , 4, 2000072	12.8	21
32	Reconfigurable Diodes Based on Vertical WSe Transistors with van der Waals Bonded Contacts. <i>Advanced Materials</i> , <b>2018</b> , 30, e1707200	24	21

31	Temperature-dependent elasticity of microtubules. <i>Langmuir</i> , <b>2008</b> , 24, 6176-81	4	19
30	Intervalley Scattering of Interlayer Excitons in a MoS/MoSe/MoS Heterostructure in High Magnetic Field. <i>Nano Letters</i> , <b>2018</b> , 18, 3994-4000	11.5	19
29	Strongly Coupled Coherent Phonons in Single-Layer MoS. <i>ACS Nano</i> , <b>2020</b> , 14, 5700-5710	16.7	15
28	Excitonic devices with van der Waals heterostructures: valleytronics meets twistrionics. <i>Nature Reviews Materials</i> ,	73.3	15
27	Unconventional electroabsorption in monolayer MoS <sub>2</sub> . <i>2D Materials</i> , <b>2017</b> , 4, 021005	5.9	14
26	High-frequency, scaled MoS <sub>2</sub> transistors <b>2015</b> ,		14
25	Electronic Properties of Transferable Atomically Thin MoSe/h-BN Heterostructures Grown on Rh(111). <i>ACS Nano</i> , <b>2018</b> , 12, 11161-11168	16.7	14
24	Numerical correction of anti-symmetric aberrations in single HRTEM images of weakly scattering 2D-objects. <i>Ultramicroscopy</i> , <b>2015</b> , 151, 130-135	3.1	12
23	High Throughput Characterization of Epitaxially Grown Single-Layer MoS <sub>2</sub> . <i>Electronics (Switzerland)</i> , <b>2017</b> , 6, 28	2.6	12
22	Air and Water-Stable n-Type Doping and Encapsulation of Flexible MoS <sub>2</sub> Devices with SU8. <i>Advanced Electronic Materials</i> , <b>2019</b> , 5, 1800492	6.4	11
21	Specific heats of the charge density wave compounds o-TaS and (TaSe ) I. <i>European Physical Journal B</i> , <b>2002</b> , 29, 71-77	1.2	10
20	Quantitative Nanoscale Absorption Mapping: A Novel Technique To Probe Optical Absorption of Two-Dimensional Materials. <i>Nano Letters</i> , <b>2020</b> , 20, 567-576	11.5	10
19	Vacuum ultraviolet excitation luminescence spectroscopy of few-layered MoS <sub>2</sub> . <i>Journal of Physics Condensed Matter</i> , <b>2016</b> , 28, 015301	1.8	9
18	Free-standing electronic character of monolayer MoS <sub>2</sub> in van der Waals epitaxy. <i>Physical Review B</i> , <b>2016</b> , 94,	3.3	8
17	Impact of photodoping on inter- and intralayer exciton emission in a MoS <sub>2</sub> /MoSe <sub>2</sub> /MoS <sub>2</sub> heterostructure. <i>Applied Physics Letters</i> , <b>2018</b> , 113, 062107	3.4	7
16	THz time-domain spectroscopy and IR spectroscopy on MoS <sub>2</sub> . <i>Physica Status Solidi (B): Basic Research</i> , <b>2016</b> , 253, 2499-2504	1.3	6
15	Quantitative Mapping of the Charge Density in a Monolayer of MoS at Atomic Resolution by Off-Axis Electron Holography. <i>ACS Nano</i> , <b>2020</b> , 14, 524-530	16.7	6
14	Excitonic transport driven by repulsive dipolar interaction in a van der Waals heterostructure.. <i>Nature Photonics</i> , <b>2022</b> , 16, 79-85	33.9	5

13	Mechanical Properties of Carbon Nanotubes. <i>Nanoscience and Technology</i> , <b>2007</b> , 583-600	0.6	5
12	Field-induced charge separation dynamics in monolayer MoS <sub>2</sub> . <i>2D Materials</i> , <b>2017</b> , 4, 035017	5.9	4
11	A robust molecular probe for Ångstrom-scale analytics in liquids. <i>Nature Communications</i> , <b>2016</b> , 7, 12403	17.4	3
10	On current transients in MoS <sub>2</sub> Field Effect Transistors. <i>Scientific Reports</i> , <b>2017</b> , 7, 11575	4.9	3
9	Addendum: Small-signal amplifier based on single-layer MoS <sub>2</sub> [Appl. Phys. Lett. 101, 043103 (2012)]. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 059901	3.4	3
8	How we made the 2D transistor. <i>Nature Electronics</i> , <b>2021</b> , 4, 853-853	28.4	2
7	Super-resolved Optical Mapping of Reactive Sulfur-Vacancies in Two-Dimensional Transition Metal Dichalcogenides. <i>ACS Nano</i> , <b>2021</b> , 15, 7168-7178	16.7	2
6	High-quality synthetic 2D transition metal dichalcogenide semiconductors <b>2016</b> ,		1
5	Micro-fabrication process for small transport devices of layered manganite. <i>Journal of Applied Physics</i> , <b>2012</b> , 111, 07E129	2.5	1
4	Zero Bias Power Detector Circuits based on MoS <sub>2</sub> Field Effect Transistors on Wafer-Scale Flexible Substrates.. <i>Advanced Materials</i> , <b>2022</b> , e2108469	24	1
3	Stable Al <sub>2</sub> O <sub>3</sub> Encapsulation of MoS <sub>2</sub> -FETs Enabled by CVD Grown h-BN. <i>Advanced Electronic Materials</i> , 2200123	6.4	1
2	Correlating chemical and electronic states from quantitative photoemission electron microscopy of transition-metal dichalcogenide heterostructures. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2021</b> , 39, 053210	2.9	0
1	Electrical Transport in MoS <sub>2</sub> : A Prototypical Semiconducting TMDC295-309		