

Andras Kis

List of Publications by Year in descending order

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125
papers

60,404
citations

13068

68
h-index

16605

123
g-index

128
all docs

128
docs citations

128
times ranked

42646
citing authors

#	ARTICLE	IF	CITATIONS
1	Excitonic devices with van der Waals heterostructures: valleytronics meets twistrionics. Nature Reviews Materials, 2022, 7, 449-464.	23.3	94
2	Zero-Bias Power-Detector Circuits based on MoS ₂ Field-Effect Transistors on Wafer-Scale Flexible Substrates. Advanced Materials, 2022, 34, e2108469.	11.1	14
3	Excitonic transport driven by repulsive dipolar interaction in a van der Waals heterostructure. Nature Photonics, 2022, 16, 79-85.	15.6	48
4	Low-Power Artificial Neural Network Perceptron Based on Monolayer MoS ₂ . ACS Nano, 2022, 16, 3684-3694.	7.3	20
5	Engineering Optically Active Defects in Hexagonal Boron Nitride Using Focused Ion Beam and Water. ACS Nano, 2022, 16, 3695-3703.	7.3	28
6	Stable Al ₂ O ₃ Encapsulation of MoS ₂ -FETs Enabled by CVD Grown h-BN. Advanced Electronic Materials, 2022, 8, .	2.6	10
7	Super-resolved Optical Mapping of Reactive Sulfur-Vacancies in Two-Dimensional Transition Metal Dichalcogenides. ACS Nano, 2021, 15, 7168-7178.	7.3	20
8	Correlating chemical and electronic states from quantitative photoemission electron microscopy of transition-metal dichalcogenide heterostructures. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, .	0.9	5
9	How we made the 2D transistor. Nature Electronics, 2021, 4, 853-853.	13.1	4
10	Superconducting 2D NbS ₂ Grown Epitaxially by Chemical Vapor Deposition. ACS Nano, 2021, 15, 18403-18410.	7.3	21
11	Quantitative Nanoscale Absorption Mapping: A Novel Technique To Probe Optical Absorption of Two-Dimensional Materials. Nano Letters, 2020, 20, 567-576.	4.5	22
12	Quantitative Mapping of the Charge Density in a Monolayer of MoS ₂ at Atomic Resolution by Off-Axis Electron Holography. ACS Nano, 2020, 14, 524-530.	7.3	10
13	Probing magnetism in atomically thin semiconducting PtSe ₂ . Nature Communications, 2020, 11, 4806.	5.8	63
14	Logic-in-memory based on an atomically thin semiconductor. Nature, 2020, 587, 72-77.	13.7	243
15	Wafer-Scale Fabrication of Nanopore Devices for Single-Molecule DNA Biosensing using MoS ₂ . Small Methods, 2020, 4, 2000072.	4.6	32
16	Strongly Coupled Coherent Phonons in Single-Layer MoS ₂ . ACS Nano, 2020, 14, 5700-5710.	7.3	44
17	Production and processing of graphene and related materials. 2D Materials, 2020, 7, 022001.	2.0	333
18	Light-Enhanced Blue Energy Generation Using MoS ₂ Nanopores. Joule, 2019, 3, 1549-1564.	11.7	127

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19	Self-sensing, tunable monolayer MoS ₂ nanoelectromechanical resonators. Nature Communications, 2019, 10, 4831.	5.8	65
20	Valley-polarized exciton currents in a van der Waals heterostructure. Nature Nanotechnology, 2019, 14, 1104-1109.	15.6	116
21	Excitonic Effects in Single Layer MoS ₂ Probed by Broadband Two-Dimensional Electronic Spectroscopy. , 2019, , .		0
22	Wafer-scale MOCVD growth of monolayer MoS ₂ on sapphire and SiO ₂ . Nano Research, 2019, 12, 2646-2652.	5.8	104
23	Defect induced, layer-modulated magnetism in ultrathin metallic PtSe ₂ . Nature Nanotechnology, 2019, 14, 674-678.	15.6	162
24	MoS ₂ photodetectors integrated with photonic circuits. Npj 2D Materials and Applications, 2019, 3, .	3.9	94
25	Polarization switching and electrical control of interlayer excitons in two-dimensional van der Waals heterostructures. Nature Photonics, 2019, 13, 131-136.	15.6	214
26	Air and Water- ϵ Stable n ϵ -Type Doping and Encapsulation of Flexible MoS ₂ Devices with SU8. Advanced Electronic Materials, 2019, 5, 1800492.	2.6	18
27	Patterning metal contacts on monolayer MoS ₂ with vanishing Schottky barriers using thermal nanolithography. Nature Electronics, 2019, 2, 17-25.	13.1	113
28	Excitonic Effects in Single Layer MoS ₂ Probed by Broadband Two-dimensional Electronic Spectroscopy. , 2019, , .		1
29	Thickness-modulated metal-to-semiconductor transformation in a transition metal dichalcogenide. Nature Communications, 2018, 9, 919.	5.8	253
30	Reconfigurable Diodes Based on Vertical WSe ₂ Transistors with van der Waals Bonded Contacts. Advanced Materials, 2018, 30, e1707200.	11.1	31
31	Large-grain MBE-grown GaSe on GaAs with a Mexican hat-like valence band dispersion. Npj 2D Materials and Applications, 2018, 2, .	3.9	51
32	Electronic Properties of Transferable Atomically Thin MoSe ₂ /h-BN Heterostructures Grown on Rh(111). ACS Nano, 2018, 12, 11161-11168.	7.3	17
33	Intervalley Scattering of Interlayer Excitons in a MoS ₂ /MoSe ₂ /MoS ₂ Heterostructure in High Magnetic Field. Nano Letters, 2018, 18, 3994-4000.	4.5	27
34	Room-temperature electrical control of exciton flux in a van der Waals heterostructure. Nature, 2018, 560, 340-344.	18.7	353
35	Impact of photodoping on inter- and intralayer exciton emission in a MoS ₂ /MoSe ₂ /MoS ₂ heterostructure. Applied Physics Letters, 2018, 113, 062107.	1.5	12
36	Dark excitons and the elusive valley polarization in transition metal dichalcogenides. 2D Materials, 2017, 4, 025016.	2.0	71

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37	Unconventional electroabsorption in monolayer MoS ₂ . 2D Materials, 2017, 4, 021005.	2.0	19
38	Micro-reflectance and transmittance spectroscopy: a versatile and powerful tool to characterize 2D materials. Journal Physics D: Applied Physics, 2017, 50, 074002.	1.3	125
39	Your new travel guide to the flatlands. Npj 2D Materials and Applications, 2017, 1, .	3.9	32
40	Geometrical Effect in 2D Nanopores. Nano Letters, 2017, 17, 4223-4230.	4.5	87
41	Highly Oriented Atomically Thin Ambipolar MoSe ₂ Grown by Molecular Beam Epitaxy. ACS Nano, 2017, 11, 6355-6361.	7.3	64
42	Defect Healing and Charge Transfer-Mediated Valley Polarization in MoS ₂ /MoSe ₂ /MoS ₂ Trilayer van der Waals Heterostructures. Nano Letters, 2017, 17, 4130-4136.	4.5	56
43	2D transition metal dichalcogenides. Nature Reviews Materials, 2017, 2, .	23.3	3,689
44	Optospintronics in Graphene <i>via</i> Proximity Coupling. ACS Nano, 2017, 11, 11678-11686.	7.3	73
45	On current transients in MoS ₂ Field Effect Transistors. Scientific Reports, 2017, 7, 11575.	1.6	4
46	Probing the Interlayer Exciton Physics in a MoS ₂ /MoSe ₂ /MoS ₂ van der Waals Heterostructure. Nano Letters, 2017, 17, 6360-6365.	4.5	118
47	Resolving the spin splitting in the conduction band of monolayer MoS ₂ . Nature Communications, 2017, 8, 1938.	5.8	41
48	Suppressing Nucleation in Metal-Organic Chemical Vapor Deposition of MoS ₂ Monolayers by Alkali Metal Halides. Nano Letters, 2017, 17, 5056-5063.	4.5	185
49	Field-induced charge separation dynamics in monolayer MoS ₂ . 2D Materials, 2017, 4, 035017.	2.0	6
50	High Throughput Characterization of Epitaxially Grown Single-Layer MoS ₂ . Electronics (Switzerland), 2017, 6, 28.	1.8	16
51	Valley Polarization by Spin Injection in a Light-Emitting van der Waals Heterojunction. Nano Letters, 2016, 16, 5792-5797.	4.5	117
52	Free-standing electronic character of monolayer MoS ₂ van der Waals epitaxy. Physical Review B, 2016, 94, .	4.1	19
53	High Responsivity, Large-Area Graphene/MoS ₂ Flexible Photodetectors. ACS Nano, 2016, 10, 8252-8262.	7.3	275
54	Magnetoexcitons in large area CVD-grown monolayer MoS ₂ /MoSe ₂ sapphire. Physical Review B, 2016, 93, .	4.1	66

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55	Single-layer MoS ₂ nanopores as nanopower generators. Nature, 2016, 536, 197-200.	13.7	830
56	High-quality synthetic 2D transition metal dichalcogenide semiconductors. , 2016, , .		1
57	Disorder engineering and conductivity dome in ReS ₂ with electrolyte gating. Nature Communications, 2016, 7, 12391.	5.8	109
58	THz time-domain spectroscopy and IR spectroscopy on MoS ₂ . Physica Status Solidi (B): Basic Research, 2016, 253, 2499-2504.	0.7	12
59	A robust molecular probe for Ångstrom-scale analytics in liquids. Nature Communications, 2016, 7, 12403.	5.8	4
60	Vacuum ultraviolet excitation luminescence spectroscopy of few-layered MoS ₂ . Journal of Physics Condensed Matter, 2016, 28, 015301.	0.7	13
61	Observation of ionic Coulomb blockade in nanopores. Nature Materials, 2016, 15, 850-855.	13.3	175
62	Electronic properties of transition-metal dichalcogenides. MRS Bulletin, 2015, 40, 577-584.	1.7	77
63	High-frequency, scaled MoS ₂ transistors. , 2015, , .		16
64	Thickness-dependent mobility in two-dimensional MoS ₂ transistors. Nanoscale, 2015, 7, 6255-6260.	2.8	68
65	Large-area MoS ₂ grown using H ₂ S as the sulphur source. 2D Materials, 2015, 2, 044005.	2.0	78
66	Valley Zeeman effect in elementary optical excitations of monolayer WSe ₂ . Nature Physics, 2015, 11, 141-147.	6.5	648
67	Single-Layer MoS ₂ Electronics. Accounts of Chemical Research, 2015, 48, 100-110.	7.6	417
68	MoS ₂ and semiconductors in the flatland. Materials Today, 2015, 18, 20-30.	8.3	179
69	Atomic Scale Microstructure and Properties of Se-Deficient Two-Dimensional MoSe ₂ . ACS Nano, 2015, 9, 3274-3283.	7.3	213
70	Piezoresistivity and Strain-induced Band Gap Tuning in Atomically Thin MoS ₂ . Nano Letters, 2015, 15, 5330-5335.	4.5	296
71	Direct fabrication of thin layer MoS ₂ field-effect nanoscale transistors by oxidation scanning probe lithography. Applied Physics Letters, 2015, 106, .	1.5	53
72	Electrochemical Reaction in Single Layer MoS ₂ : Nanopores Opened Atom by Atom. Nano Letters, 2015, 15, 3431-3438.	4.5	209

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73	Optically active quantum dots in monolayer WSe ₂ . Nature Nanotechnology, 2015, 10, 491-496.	15.6	648
74	Large-Area Epitaxial Monolayer MoS ₂ . ACS Nano, 2015, 9, 4611-4620.	7.3	712
75	Identification of single nucleotides in MoS ₂ nanopores. Nature Nanotechnology, 2015, 10, 1070-1076.	15.6	409
76	Electromechanical oscillations in bilayer graphene. Nature Communications, 2015, 6, 8582.	5.8	44
77	Electrical contacts to two-dimensional semiconductors. Nature Materials, 2015, 14, 1195-1205.	13.3	1,318
78	Numerical correction of anti-symmetric aberrations in single HRTEM images of weakly scattering 2D-objects. Ultramicroscopy, 2015, 151, 130-135.	0.8	12
79	Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. Nanoscale, 2015, 7, 4598-4810.	2.8	2,452
80	Light Generation and Harvesting in a van der Waals Heterostructure. ACS Nano, 2014, 8, 3042-3048.	7.3	389
81	Thermal Conductivity of Monolayer Molybdenum Disulfide Obtained from Temperature-Dependent Raman Spectroscopy. ACS Nano, 2014, 8, 986-993.	7.3	666
82	MoS ₂ Transistors Operating at Gigahertz Frequencies. Nano Letters, 2014, 14, 5905-5911.	4.5	161
83	Can 2D-Nanocrystals Extend the Lifetime of Floating-Gate Transistor Based Nonvolatile Memory?. IEEE Transactions on Electron Devices, 2014, 61, 3456-3464.	1.6	38
84	Electrical Transport Properties of Single-Layer WS ₂ . ACS Nano, 2014, 8, 8174-8181.	7.3	620
85	Atomically Thin Molybdenum Disulfide Nanopores with High Sensitivity for DNA Translocation. ACS Nano, 2014, 8, 2504-2511.	7.3	404
86	Electron and Hole Mobilities in Single-Layer WSe ₂ . ACS Nano, 2014, 8, 7180-7185.	7.3	295
87	Mobility engineering and a metal-insulator transition in monolayer MoS ₂ . Nature Materials, 2013, 12, 815-820.	13.3	1,500
88	Detecting the translocation of DNA through a nanopore using graphene nanoribbons. Nature Nanotechnology, 2013, 8, 939-945.	15.6	332
89	Exciton Dynamics in Suspended Monolayer and Few-Layer MoS ₂ 2D Crystals. ACS Nano, 2013, 7, 1072-1080.	7.3	686
90	Nonvolatile Memory Cells Based on MoS ₂ /Graphene Heterostructures. ACS Nano, 2013, 7, 3246-3252.	7.3	904

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91	Ultrasensitive photodetectors based on monolayer MoS ₂ . Nature Nanotechnology, 2013, 8, 497-501.	15.6	4,202
92	Reply to 'Measurement of mobility in dual-gated MoS ₂ transistors'. Nature Nanotechnology, 2013, 8, 147-148.	15.6	103
93	Micro-fabrication process for small transport devices of layered manganite. Journal of Applied Physics, 2012, 111, 07E129.	1.1	1
94	Long-term retention in organic ferroelectric-graphene memories. Applied Physics Letters, 2012, 100, 023507.	1.5	54
95	Electronics and optoelectronics of two-dimensional transition metal dichalcogenides. Nature Nanotechnology, 2012, 7, 699-712.	15.6	13,346
96	Breakdown of High-Performance Monolayer MoS ₂ Transistors. ACS Nano, 2012, 6, 10070-10075.	7.3	349
97	Small-signal amplifier based on single-layer MoS ₂ . Applied Physics Letters, 2012, 101, 043103.	1.5	190
98	Visibility of dichalcogenide nanolayers. Nanotechnology, 2011, 22, 125706.	1.3	382
99	Single-layer MoS ₂ transistors. Nature Nanotechnology, 2011, 6, 147-150.	15.6	12,612
100	Ripples and Layers in Ultrathin MoS ₂ Membranes. Nano Letters, 2011, 11, 5148-5153.	4.5	315
101	Stretching and Breaking of Ultrathin MoS ₂ . ACS Nano, 2011, 5, 9703-9709.	7.3	2,096
102	Integrated Circuits and Logic Operations Based on Single-Layer MoS ₂ . ACS Nano, 2011, 5, 9934-9938.	7.3	1,196
103	ssDNA Binding Reveals the Atomic Structure of Graphene. Langmuir, 2010, 26, 18078-18082.	1.6	81
104	Beta amyloid and hyperphosphorylated tau deposits in the pancreas in type 2 diabetes. Neurobiology of Aging, 2010, 31, 1503-1515.	1.5	179
105	Mechanical and electronic properties of vanadium oxide nanotubes. Journal of Applied Physics, 2009, 105, .	1.1	26
106	Temperature-Dependent Elasticity of Microtubules. Langmuir, 2008, 24, 6176-6181.	1.6	20
107	Nanomechanics of carbon nanotubes. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 1591-1611.	1.6	100
108	A cell nanoinjector based on carbon nanotubes. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 8218-8222.	3.3	366

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109	Buckling and kinking force measurements on individual multiwalled carbon nanotubes. <i>Physical Review B</i> , 2007, 76, .	1.1	52
110	Nanomechanical Investigation of Mo ₆ S ₉ Nanowire Bundles. <i>Small</i> , 2007, 3, 1544-1548.	5.2	25
111	Mechanical Properties of Carbon Nanotubes. <i>Nanoscience and Technology</i> , 2007, , 583-600.	1.5	9
112	Controlled placement of highly aligned carbon nanotubes for the manufacture of arrays of nanoscale torsional actuators. <i>Nanotechnology</i> , 2006, 17, 434-438.	1.3	38
113	Shrinking a Carbon Nanotube. <i>Nano Letters</i> , 2006, 6, 2718-2722.	4.5	149
114	Beta-amyloid deposition and Alzheimer's type changes induced by <i>Borrelia</i> spirochetes. <i>Neurobiology of Aging</i> , 2006, 27, 228-236.	1.5	172
115	Interlayer Forces and Ultralow Sliding Friction in Multiwalled Carbon Nanotubes. <i>Physical Review Letters</i> , 2006, 97, 025501.	2.9	231
116	Elastic modulus of multi-walled carbon nanotubes produced by catalytic chemical vapour deposition. <i>Applied Physics A: Materials Science and Processing</i> , 2005, 80, 695-700.	1.1	42
117	Imaging the life story of nanotube devices. <i>Applied Physics Letters</i> , 2005, 87, 083103.	1.5	50
118	Catalytically Grown Carbon Nanotubes of Small Diameter Have a High Young's Modulus. <i>Nano Letters</i> , 2005, 5, 2074-2077.	4.5	65
119	Reinforcement of single-walled carbon nanotube bundles by intertube bridging. <i>Nature Materials</i> , 2004, 3, 153-157.	13.3	534
120	Oscillation modes of microtubules. <i>Biology of the Cell</i> , 2004, 96, 697-700.	0.7	59
121	Mechanical Properties of Microtubules Explored Using the Finite Elements Method. <i>ChemPhysChem</i> , 2004, 5, 252-257.	1.0	77
122	Shear and Young's Moduli of MoS ₂ Nanotube Ropes. <i>Advanced Materials</i> , 2003, 15, 733-736.	11.1	123
123	Nanomechanics of Microtubules. <i>Physical Review Letters</i> , 2002, 89, 248101.	2.9	309
124	Specific heats of the charge density wave compounds o-TaS and (TaSe) I. <i>European Physical Journal B</i> , 2002, 29, 71-77.	0.6	11
125	Electrical Transport in MoS ₂ : A Prototypical Semiconducting TMDC. , 0, , 295-309.		0