Abhay Pasupathy

List of Publications by Year
in descending order

92 papers	11,789 citations	38742 50 h-index	43889 91 g-index
98 all docs	98 docs citations	98 times ranked	12944 citing authors

#	Article	IF	Citations
1	Extracting the Strain Matrix and Twist Angle from the MoirÃ© Superlattice in van der Waals Heterostructures. ACS Nano, 2022, 16, 1471-1476.	14.6	10
2	Visualizing the unusual spectral weight transfer in DyBa2Cu3O7â€“Î´ thin film. Scientific Reports, 2022, 12, 830.	3.3	1
3	Nano-spectroscopy of excitons in atomically thin transition metal dichalcogenides. Nature Communications, 2022, 13, 542.	12.8	23
4	Nanometer-Scale Lateral pâ€“n Junctions in Graphene/Î±-RuCl₃ Heterostructures. Nano Letters, 2022, 22, 1946-1953.	9.1	25
5	Orderly disorder in magic-angle twisted trilayer graphene. Science, 2022, 376, 193-199.	12.6	63
6	MoirÃ© nematic phase in twisted double bilayer graphene. Nature Physics, 2022, 18, 196-202.	16.7	51
7	Coupling between magnetic order and charge transport in a two-dimensional magnetic semiconductor. Nature Materials, 2022, 21, 754-760.	27.5	60
8	Visualizing Atomically Layered Magnetism in CrSBr. Advanced Materials, 2022, 34, e2201000.	21.0	22
9	Topological electronic structure of YbMg2Bi2 and CaMg2Bi2. Npj Quantum Materials, 2022, 7, .	5.2	7
10	Nanoscale Femtosecond Dynamics of Mott Insulator (Ca_{0.99}Sr_{0.01})₂RuO₄. Nano Letters, 2022, 22, 5689-5697.	9.1	5
11	MoirÃ© metrology of energy landscapes in van der Waals heterostructures. Nature Communications, 2021, 12, 242.	12.8	60
12	Intrinsic donor-bound excitons in ultraclean monolayer semiconductors. Nature Communications, 2021, 12, 871.	12.8	29
13	Deep moirÃ© potentials in twisted transition metal dichalcogenide bilayers. Nature Physics, 2021, 17, 720-725.	16.7	124
14	MoirÃ© heterostructures as a condensed-matter quantum simulator. Nature Physics, 2021, 17, 155-163.	16.7	317
15	Enhanced Superconductivity in Monolayer <i>T</i>_d-MoTe₂. Nano Letters, 2021, 21, 2505-2511.	9.1	49
16	Electric-field-tunable electronic nematic order in twisted double-bilayer graphene. 2D Materials, 2021, 8, 034005.	4.4	23
17	Nano-imaging of strain-tuned stripe textures in a Mott crystal. Npj Quantum Materials, 2021, 6, .	5.2	12
18	A tell-tale wiggle. Nature Physics, 2021, 17, 1082-1083.	16.7	3

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19	Andreev Reflections in NbN/Graphene Junctions under Large Magnetic Fields. Nano Letters, 2021, 21, 8229-8235.	9.1	3
20	Nanoscale lattice dynamics in hexagonal boron nitride moirÃ© superlattices. Nature Communications, 2021, 12, 5741.	12.8	34
21	Quantum criticality in twisted transition metal dichalcogenides. Nature, 2021, 597, 345-349.	27.8	163
22	MoirÃ©less correlations in ABCA graphene. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	59
23	Nonmonotonic Temperature-Dependent Dissipation at Nonequilibrium in Atomically Thin Clean-Limit Superconductors. Nano Letters, 2021, 21, 583-589.	9.1	3
24	High carrier mobility in graphene doped using a monolayer of tungsten oxyselenide. Nature Electronics, 2021, 4, 731-739.	26.0	41
25	Deep Learning Analysis of Polaritonic Wave Images. ACS Nano, 2021, 15, 18182-18191.	14.6	10
26	Excitons in strain-induced one-dimensional moirÃ© potentials at transition metal dichalcogenide heterojunctions. Nature Materials, 2020, 19, 1068-1073.	27.5	169
27	Imaging strain-localized excitons in nanoscale bubbles of monolayer WSe2 at room temperature. Nature Nanotechnology, 2020, 15, 854-860.	31.5	134
28	Layered Antiferromagnetism Induces Large Negative Magnetoresistance in the van der Waals Semiconductor CrSBr. Advanced Materials, 2020, 32, e2003240.	21.0	116
29	Complete Strain Mapping of Nanosheets of Tantalum Disulfide. ACS Applied Materials & Interfaces, 2020, 12, 43173-43179.	8.0	6
30	Correlated electronic phases in twisted bilayer transition metal dichalcogenides. Nature Materials, 2020, 19, 861-866.	27.5	544
31	Visualization of moirÃ© superlattices. Nature Nanotechnology, 2020, 15, 580-584.	31.5	187
32	Tunable strain soliton networks confine electrons in van der Waals materials. Nature Physics, 2020, 16, 1097-1102.	16.7	47
33	Dictionary learning in Fourier-transform scanning tunneling spectroscopy. Nature Communications, 2020, 11, 1081.	12.8	10
34	Enabling room temperature ferromagnetism in monolayer MoS2 via in situ iron-doping. Nature Communications, 2020, 11, 2034.	12.8	112
35	Fragility of the dissipationless state in clean two-dimensional superconductors. Nature Physics, 2019, 15, 947-953.	16.7	29
36	Maximized electron interactions at the magic angle in twisted bilayer graphene. Nature, 2019, 572, 95-100.	27.8	644

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37	Atomic-Scale Characterization of Graphene pâ€“n Junctions for Electron-Optical Applications. ACS Nano, 2019, 13, 2558-2566.	14.6	10
38	Approaching the Intrinsic Limit in Transition Metal Diselenides via Point Defect Control. Nano Letters, 2019, 19, 4371-4379.	9.1	161
39	Sensitivity of the superconducting state in thin films. Science Advances, 2019, 5, eaau3826.	10.3	54
40	Unconventional scaling of the superfluid density with the critical temperature in transition metal dichalcogenides. Science Advances, 2019, 5, eaav8465.	10.3	20
41	Impact of substrate induced band tail states on the electronic and optical properties of MoS2. Applied Physics Letters, 2019, 115, .	3.3	24
42	Via Method for Lithography Free Contact and Preservation of 2D Materials. Nano Letters, 2018, 18, 1416-1420.	9.1	59
43	Superatomic Two-Dimensional Semiconductor. Nano Letters, 2018, 18, 1483-1488.	9.1	41
44	Temperature-driven topological transition in 1T'-MoTe2. Npj Quantum Materials, 2018, 3, .	5.2	36
45	Infrared nanoimaging of the metal-insulator transition in the charge-density-wave van der Waals material 1Tâˆ'TaS2. Physical Review B, 2018, 97, .	3.2	9
46	Magnetism in semiconducting molybdenum dichalcogenides. Science Advances, 2018, 4, eaat3672.	10.3	92
47	Strain Engineering and Raman Spectroscopy of Monolayer Transition Metal Dichalcogenides. Chemistry of Materials, 2018, 30, 5148-5155.	6.7	92
48	Band structure engineering of 2D materials using patterned dielectric superlattices. Nature Nanotechnology, 2018, 13, 566-571.	31.5	157
49	Engineering the Structural and Electronic Phases of MoTe₂ through W Substitution. Nano Letters, 2017, 17, 1616-1622.	9.1	128
50	Signatures of the topological s +âˆ' superconducting order parameter in the type-II Weyl semimetal T d-MoTe2. Nature Communications, 2017, 8, 1082.	12.8	101
51	Passivating 1Tâ€²-MoTe₂ multilayers at elevated temperatures by encapsulation. Nanoscale, 2017, 9, 13910-13914.	5.6	7
52	Absence of a Band Gap at the Interface of a Metal and Highly Doped Monolayer MoS₂. Nano Letters, 2017, 17, 5962-5968.	9.1	37
53	On the Global Geometry of Sphere-Constrained Sparse Blind Deconvolution. , 2017, , .		26
54	Mapping Periodic Lattice Distortions in Exfoliated Dichalchogenides with Atomic Resolution cryo-STEM. Microscopy and Microanalysis, 2016, 22, 1550-1551.	0.4	0

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55	Thickness and Stacking Sequence Determination of Exfoliated Dichalchogenides Using Scanning Transmission Electron Microscopy. Microscopy and Microanalysis, 2016, 22, 1456-1457.	0.4	0
56	Imaging chiral symmetry breaking from KekulÃ© bond order in graphene. Nature Physics, 2016, 12, 950-958.	16.7	111
57	Atomic-Scale Spectroscopy of Gated Monolayer MoS₂. Nano Letters, 2016, 16, 3148-3154.	9.1	30
58	Atomic lattice disorder in charge-density-wave phases of exfoliated dichalcogenides (1T-TaS) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 627 T 113, 11420-11424.	7.1	86
59	Distinct surface and bulk charge density waves in ultrathin <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>1</mml:mn><mml:mi>T</mml:mi><mml:mtext>â"</m mathvariant="normal">S</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2016, 94, .	3.2	41
60	Klein tunnelling and electron trapping in nanometre-scale graphene quantum dots. Nature Physics, 2016, 12, 1069-1075.	16.7	150
61	Atomistic Interrogation of Bâ€"N Co-dopant Structures and Their Electronic Effects in Graphene. ACS Nano, 2016, 10, 6574-6584.	14.6	53
62	Nature of the quantum metal in a two-dimensional crystalline superconductor. Nature Physics, 2016, 12, 208-212.	16.7	228
63	Flicker Noise as a Probe of Electronic Interaction at Metalâ€"Single Molecule Interfaces. Nano Letters, 2015, 15, 4143-4149.	9.1	109
64	Experimental Evidence for a Bragg Glass Density Wave Phase in a Transition-Metal Dichalcogenide. Physical Review Letters, 2015, 114, 026802.	7.8	25
65	Dopant Segregation in Polycrystalline Monolayer Graphene. Nano Letters, 2015, 15, 1428-1436.	9.1	19
66	Quasiparticle Interference, Quasiparticle Interactions, and the Origin of the Charge Density Wave in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>2</mml:mn><mml:mi>H</mml:mi><mml:mtext>â"</mml:mtext><mml:msub><mml:mrow><m Physical Review Letters, 2015, 114, 037001.	7.8	67
67	Emergent surface superconductivity in the topological insulator Sb2Te3. Nature Communications, 2015, 6, 8279.	12.8	53
68	Structure and control of charge density waves in two-dimensional 1T-TaS ₂. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15054-15059.	7.1	205
69	Visualization of electron nematicity and unidirectional antiferroic fluctuations at high temperatures in NaFeAs. Nature Physics, 2014, 10, 225-232.	16.7	158
70	Segregation of Sublattice Domains in Nitrogen-Doped Graphene. Journal of the American Chemical Society, 2014, 136, 1391-1397.	13.7	86
71	Visualizing the charge density wave transition in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mn>2</mml:mn><mml:mi>H</mml:mi></mml:math>-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mtext>NbSe</mml:mtext><mml:mn>2</mml:mn></mml:m real space. Physical Review B, 2014, 89, .	3.2	136
72	Local Atomic and Electronic Structure of Boron Chemical Doping in Monolayer Graphene. Nano Letters, 2013, 13, 4659-4665.	9.1	192

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73	Substrate Level Control of the Local Doping in Graphene. Nano Letters, 2013, 13, 1386-1392.	9.1	42
74	Topography, complex refractive index, and conductivity of graphene layers measured by correlation of optical interference contrast, atomic force, and back scattered electron microscopy. Journal of Applied Physics, 2013, 114, 183107.	2.5	5
75	Molecular beam growth of graphene nanocrystals on dielectric substrates. Carbon, 2012, 50, 4822-4829.	10.3	34
76	Large Physisorption Strain in Chemical Vapor Deposition of Graphene on Copper Substrates. Nano Letters, 2012, 12, 2408-2413.	9.1	122
77	Connecting Dopant Bond Type with Electronic Structure in N-Doped Graphene. Nano Letters, 2012, 12, 4025-4031.	9.1	471
78	Visualizing Individual Nitrogen Dopants in Monolayer Graphene. Science, 2011, 333, 999-1003.	12.6	774
79	Mechanical Control of Spin States in Spin-1 Molecules and the Underscreened Kondo Effect. Science, 2010, 328, 1370-1373.	12.6	399
80	Visualizing the formation of the Kondo lattice and the hidden order in URu ₂ Si ₂. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 10383-10388.	7.1	176
81	Nanoscale Proximity Effect in the High-Temperature Superconductor<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Bi</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Sr</mml:mi><mml:mn mathvariant="bold">O</mml:mi><mml:mrow><mml:mn>8</mml:mn><mml:mo>+</mml:mo><mml:mi>Î´</mml:mi></mml:mrow></m a Scanning Tunneling Microscope. Physical Review Letters, 2010, 104, 117001.	7.8	29
82	Extending Universal Nodal Excitations Optimizes Superconductivity in Bi ₂ Sr ₂ CaCu ₂ O _{8+Î´}. Science, 2009, 324, 1689-1693.	12.6	107
83	Mapping of the formation of the pairing gap in. Journal of Physics and Chemistry of Solids, 2008, 69, 3034-3038.	4.0	5
84	Electronic Origin of the Inhomogeneous Pairing Interaction in the High- <i>T</i> _c Superconductor Bi ₂ Sr ₂ CaCu ₂ O _{8+Î´}. Science, 2008, 320, 196-201.	12.6	186
85	Visualizing pair formation on the atomic scale in the high-Tc superconductor Bi2Sr2CaCu2O8+Î´. Nature, 2007, 447, 569-572.	27.8	414
86	From Ballistic Transport to Tunneling in Electromigrated Ferromagnetic Breakjunctions. Nano Letters, 2006, 6, 123-127.	9.1	52
87	Vibration-Assisted Electron Tunneling in C140Transistors. Nano Letters, 2005, 5, 203-207.	9.1	184
88	Mechanically Adjustable and Electrically Gated Single-Molecule Transistors. Nano Letters, 2005, 5, 305-308.	9.1	168
89	Metal-nanoparticle single-electron transistors fabricated using electromigration. Applied Physics Letters, 2004, 84, 3154-3156.	3.3	142
90	The Kondo Effect in the Presence of Ferromagnetism. Science, 2004, 306, 86-89.	12.6	516

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91	Coulomb blockade and the Kondo effect in single-atom transistors. Nature, 2002, 417, 722-725.	27.8	1,902
92	Magnetic Anisotropy Variations and Nonequilibrium Tunneling in a Cobalt Nanoparticle. Physical Review Letters, 2001, 87, 226801.	7.8	57