Anupama Kaul

List of Publications by Year
in descending order

117 papers	1,484 citations	394286 19 h-index	345118 36 g-index
119 all docs	119 docs citations	119 times ranked	1829 citing authors

#	Article	IF	Citations
1	Two-dimensional layered materials: Structure, properties, and prospects for device applications. Journal of Materials Research, 2014, 29, 348-361.	1.2	189
2	Electromechanical Carbon Nanotube Switches for High-Frequency Applications. Nano Letters, 2006, 6, 942-947.	4.5	153
3	Biocompatible, large-format, inkjet printed heterostructure MoS2-graphene photodetectors on conformable substrates. Npj 2D Materials and Applications, 2017, 1, .	3.9	88
4	Probing Noise in Flux Qubits via Macroscopic Resonant Tunneling. Physical Review Letters, 2008, 101, 117003.	2.9	64
5	Internally shunted sputtered NbN Josephson junctions with a TaNx barrier for nonlatching logic applications. Applied Physics Letters, 2001, 78, 99-101.	1.5	62
6	Geometrical dependence of the low-frequency noise in superconducting flux qubits. Physical Review B, 2009, 79, .	1.1	56
7	Inkjet-Printed Organohalide 2D Layered Perovskites for High-Speed Photodetectors on Flexible Polyimide Substrates. ACS Applied Materials & Interfaces, 2020, 12, 10809-10819.	4.0	51
8	Ultraâ€High Optical Absorption Efficiency from the Ultraviolet to the Infrared Using Multiâ€Walled Carbon Nanotube Ensembles. Small, 2013, 9, 1058-1065.	5.2	47
9	Ultra-high Photoresponsivity in Suspended Metal-Semiconductor-Metal Mesoscopic Multilayer MoS2 Broadband Detector from UV-to-IR with Low Schottky Barrier Contacts. Scientific Reports, 2018, 8, 1276.	1.6	44
10	Photophysical Dynamics in Semiconducting Graphene Quantum Dots Integrated with 2D MoS₂ for Optical Enhancement in the Near UV. ACS Applied Materials & Interfaces, 2021, 13, 5379-5389.	4.0	44
11	On the chemically-assisted excitonic enhancement in environmentally-friendly solution dispersions of two-dimensional MoS₂ and WS₂. Journal of Materials Chemistry C, 2017, 5, 5323-5333.	2.7	38
12	Engineering chemically exfoliated dispersions of two-dimensional graphite and molybdenum disulphide for ink-jet printing. Nanotechnology, 2016, 27, 485602.	1.3	33
13	Quantum Multibody Interactions in Halide-Assisted Vapor-Synthesized Monolayer WSe₂ and Its Integration in a High Responsivity Photodetector with Low-Interface Trap Density. Chemistry of Materials, 2019, 31, 9861-9874.	3.2	30
14	Chemical exfoliation efficacy of semiconducting WS₂ and its use in an additively manufactured heterostructure grapheneâ€“WS₂â€“graphene photodiode. RSC Advances, 2019, 9, 25805-25816.	1.7	27
15	Dramatic Enhancement of Optoelectronic Properties of Electrophoretically Deposited C₆₀â€“Graphene Hybrids. ACS Applied Materials & Interfaces, 2019, 11, 24349-24359.	4.0	27
16	A thermally-invariant, additively manufactured, high-power graphene resistor for flexible electronics. 2D Materials, 2017, 4, 025076.	2.0	26
17	High-performance ink-jet printed graphene resistors formed with environmentally-friendly surfactant-free inks for extreme thermal environments. Applied Materials Today, 2017, 6, 16-21.	2.3	26
18	Sc₃N@C₈₀ and La@C₈₂ doped graphene for a new class of optoelectronic devices. Journal of Materials Chemistry C, 2020, 8, 3970-3981.	2.7	23

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19	A 10 GHz digital amplifier in an ultra-small-spread high-J/sub c/ Nb/Al-AlOx/Nb integrated circuit process. IEEE Transactions on Applied Superconductivity, 1999, 9, 3232-3235.	1.1	22
20	Carrier photodynamics in 2D perovskites with solution-processed silver and graphene contacts for bendable optoelectronics. Npj 2D Materials and Applications, 2021, 5, .	3.9	22
21	Lightâ€“matter interactions in two-dimensional layered WSe₂ for gauging evolution of phonon dynamics. Beilstein Journal of Nanotechnology, 2020, 11, 782-797.	1.5	20
22	Role of metal contacts and effect of annealing in high performance 2D WSe2 field-effect transistors. Surface and Coatings Technology, 2020, 381, 125084.	2.2	19
23	In situcharacterization of vertically oriented carbon nanofibers for three-dimensional nano-electro-mechanical device applications. Nanotechnology, 2010, 21, 315501.	1.3	18
24	A photo-capacitive sensor operational from 6 K to 350 K with a solution printable, thermally-robust hexagonal boron nitride (h-BN) dielectric and conductive graphene electrodes. Applied Materials Today, 2020, 20, 100660.	2.3	18
25	Very small critical current spreads in Nb/Al-AlOx/Nb integrated circuits using low-temperature and low-stress ECR PECVD silicon oxide films. IEEE Transactions on Applied Superconductivity, 1999, 9, 3208-3211.	1.1	17
26	High-Tc superconducting NbN films with low particulate density grown at 25 Â°C using pulsed laser deposition. Journal of Materials Research, 2001, 16, 1223-1226.	1.2	16
27	Fabrication of wide-IF 200â€“300â€‰GHz superconductorâ€“insulatorâ€“superconductor mixers with suspended metal beam leads formed on silicon-on-insulator. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 2417.	1.6	15
28	Synchronization of multiple coupled rf-SQUID flux qubits. New Journal of Physics, 2009, 11, 123022.	1.2	15
29	Opto-electro-mechanical percolative composites from 2D layered materials: Properties and applications in strain sensing. Composites Science and Technology, 2019, 182, 107687.	3.8	13
30	Inkjet-printed MoS2-based field-effect transistors with graphene and hexagonal boron nitride inks. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, .	0.6	13
31	Sol-gel synthesized indium tin oxide as a transparent conducting oxide with solution-processed black phosphorus for its integration into solar-cells. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, .	0.6	13
32	Superconducting NbN films grown using pulsed laser deposition for potential application in internally shunted Josephson junctions. Superconductor Science and Technology, 1999, 12, 1030-1032.	1.8	11
33	NbN/TaN/sub x//NbN SNS Josephson junctions by pulsed laser deposition. IEEE Transactions on Applied Superconductivity, 2001, 11, 88-91.	1.1	11
34	3D-printed and injection molded polymer matrix composites with 2D layered materials. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, 042201.	0.9	11
35	Single, aligned carbon nanotubes in 3D nanoscale architectures enabled by top-down and bottom-up manufacturable processes. Nanotechnology, 2009, 20, 075303.	1.3	10
36	Submicrometer ${m Nb}/{m Al}{-}{m AlO}_{m x}/{m Nb}$ Integrated Circuit Fabrication Process for Quantum Computing Applications. IEEE Transactions on Applied Superconductivity, 2009, 19, 226-229.	1.1	10

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37	Investigation of nonlinear optical properties of exfoliated MoS2 using Photoacoustic Zscan. MRS Advances, 2016, 1, 3215-3221.	0.5	10
38	Effects of Synthesis Parameters on CVD Molybdenum Disulfide Growth. MRS Advances, 2016, 1, 2291-2296.	0.5	9
39	Black Phosphorus-Molybdenum Disulfide Hetero-Junctions Formed with Ink-Jet Printing for Potential Solar Cell Applications with Indium-Tin-Oxide. Crystals, 2021, 11, 560.	1.0	9
40	Carbon Nanotube Vacuum Gauges With Wide Dynamic Range. IEEE Nanotechnology Magazine, 2009, 8, 252-257.	1.1	8
41	Inkjet printing of liquid-exfoliated, highly conducting graphene/poly(3,4) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 587 Td (ethyle Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, 03D112.	0.6	8
42	Nanosheets of MoOx crystallites synthesized via chemical vapor deposition and its potential in bolometric applications. Surface and Coatings Technology, 2020, 382, 125031.	2.2	8
43	Interrogating vertically oriented carbon nanofibers with nanomanipulation for nanoelectromechanical switching applications. Applied Physics Letters, 2009, 95, 093103.	1.5	7
44	Solution dispersed 2D graphene & MoS<inf>2</inf> for an inkjet printed biocompatible photodetector. , 2016, , .		7
45	Inkjet printed graphene as an interconnect for optoelectronic devices. Journal of Materials Science: Materials in Electronics, 2019, 30, 12500-12509.	1.1	7
46	Gas sensing with long, diffusively contacted single-walled carbon nanotubes. Nanotechnology, 2009, 20, 155501.	1.3	6
47	Nanopatterning of catalyst by Dip Pen nanolithography (DPN) for synthesis of carbon nanotubes (CNT). Scanning, 2010, 32, 42-48.	0.7	6
48	Nano-electro-mechanical-systems (NEMS) and energy-efficient electronics and the emergence of two-dimensional layered materials beyond graphene. , 2013, , .		6
49	Characterization of 2D MoS2 and WS2 Dispersed in Organic Solvents for Composite Applications. MRS Advances, 2016, 1, 2303-2308.	0.5	6
50	Fabrication and characterization of inkjet-printed 2D perovskite optoelectronic devices. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	0.9	6
51	Methylammonium Lead Tri-Iodide Perovskite Solar Cells with Varying Equimolar Concentrations of Perovskite Precursors. Applied Sciences (Switzerland), 2021, 11, 11689.	1.3	6
52	Characterization of Plasma Synthesized Vertical Carbon Nanofibers for Nanoelectronics Applications. Materials Research Society Symposia Proceedings, 2012, 1451, 117-122.	0.1	5
53	Carbon nanofiber high frequency nanomechanical resonators. Nanoscale, 2017, 9, 11864-11870.	2.8	5
54	Vibrational spectroscopy on solution-dispersed MoS2 for inkjet-printed photodetectors. Emergent Materials, 2022, 5, 477-487.	3.2	5

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55	Aluminum Nitride Tunnel Barrier Formation with Low-Energy Nitrogen Ion Beams. Journal of Materials Research, 2005, 20, 3047-3053.	1.2	4
56	Application specific electrode-integrated nanotube cathodes (ASINCs) for miniature analytical instruments for space exploration. , 2008, , .		4
57	Optimization of fluid characteristics of 2D materials for inkjet printing. MRS Advances, 2016, 1, 2199-2206.	0.5	4
58	Tungsten Disulfide Nanodispersions for Inkjet Printing and Semiconducting Devices. MRS Advances, 2017, 2, 3691-3696.	0.5	4
59	Air Bridge and Vertical Carbon Nanotube Switches for High Performance Switching Applications. Materials Research Society Symposia Proceedings, 2006, 924, 1.	0.1	3
60	Ion Beam Nitridation of Al for Tunnel Barrier Applications. IEEE Transactions on Applied Superconductivity, 2007, 17, 198-201.	1.1	3
61	Carbon nanotube switches for communication and memory applications. Proceedings of SPIE, 2008, , .	0.8	3
62	Electronic and Optical Properties Characterization of MoS2 Two-Dimensional Exfoliated nanomaterials. MRS Advances, 2016, 1, 3223-3228.	0.5	3
63	High-Performance, Flexible, Inkjet Printed Heterostructure Photodetector for Biosensing Applications. MRS Advances, 2019, 4, 621-627.	0.5	3
64	Photodetectors with Buckminsterfullerene Decorated WSe₂. Journal of the Electrochemical Society, 2022, 169, 047503.	1.3	3
65	Polydimethylsiloxane and polyisoprene-based graphene composites for strain-sensing. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, 03D106.	0.6	2
66	Nanoscale Characterization of WSe2 for Opto-electronics Applications. MRS Advances, 2017, 2, 3715-3720.	0.5	2
67	Biocompatible, Inkjet Printed Heterostructure Photodetector for Biosensing Applications. , 2018, , .		2
68	Inks of dielectric h-BN and semiconducting WS2 for capacitive structures with graphene. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, 052201.	0.6	2
69	Carbon Nanomaterials for Nanoelectronics and Optical Applications. Nanoscience and Nanotechnology Letters, 2010, 2, 170-174.	0.4	2
70	Spectroscopic, structural, and strain-dependent analysis of suspended bulk WSe2 sheets. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2022, 40, 022202.	0.6	2
71	Vacuum microelectronics applications using carbon nanotube cathodes. , 2008, , .		1
72	Vertically Aligned Carbon Nanotubes Formed Using dc PECVD as Switching Elements for Extreme Environment Space Electronics. Materials Research Society Symposia Proceedings, 2008, 1081, 1.	0.1	1

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73	Nano-Electro-Mechanical Switches Derived from Carbon-Based Nanomaterials. Nanoscience and Nanotechnology Letters, 2010, 2, 163-169.	0.4	1
74	Carbon nanofiber switches and sensors. , 2012, , .		1
75	Graphene and two-dimensional layered materials for device applications. , 2013, , .		1
76	Two-dimensional atomic crystals beyond graphene. Proceedings of SPIE, 2014, , .	0.8	1
77	Nano Carbon 1D and 2D Nanomechanical Resonators. Materials Research Society Symposia Proceedings, 2014, 1693, 37.	0.1	1
78	Chemically and mechanically exfoliated MoS<inf>2</inf> for electronic & opto-electronic devices. , 2016, , .		1
79	Investigation of structural morphology and electrical properties of graphene-C60hybrids. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, 03D111.	0.6	1
80	(Invited) Quantum Multi-Body Interactions in Semiconducting WSe2 and C60-Graphene Hybrids for High-Performance Photodetectors. ECS Transactions, 2020, 97, 59-66.	0.3	1
81	Electrical and Optoelectronic Properties Analysis in Two-dimensional Multilayer WSe2 Phototransistor for High Speed Device Applications. , 2020, , .		1
82	Many-body Interactions in Halide-assisted CVD Grown WSe2 for High Performance Photodetectors. , 2020, , .		1
83	Low power, wide dynamic range carbon nanotube vacuum gauges. Proceedings of the IEEE International Conference on Micro Electro Mechanical Systems (MEMS), 2008, , .	0.0	0
84	Carbon nanotube vacuum gauges utilizing long, dissipative tubes. Proceedings of SPIE, 2008, , .	0.8	0
85	Electrostatic Switching in Vertically Oriented Nanotubes for Nonvolatile Memory Applications. Materials Research Society Symposia Proceedings, 2009, 1186, 1.	0.1	0
86	Switching Voltage in a Carbon Nanotube Memory Device. Materials Research Society Symposia Proceedings, 2009, 1186, 13.	0.1	0
87	High-throughput top-down and bottom-up processes for forming single-nanotube based architectures for 3D electronics. Materials Research Society Symposia Proceedings, 2009, 1179, 33.	0.1	0
88	High-throughput processes and structural characterization of single-nanotube based devices for 3D electronics. , 2009, , .		0
89	Modeling and In-Situ Observation of Mechanical Resonances in Single, Vertically-Oriented Carbon Nanofibers. Journal of Nanoscience and Nanotechnology, 2010, 10, 6388-6394.	0.9	0
90	AC modeling of mechanical resonators based on carbon nanotubes. Proceedings of SPIE, 2010, , .	0.8	0

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91	Carbon-based nano-electro-mechanical systems. Proceedings of SPIE, 2010, , .	0.8	0
92	Carbon Nanomaterials for Energy Efficient Green Electronics. Materials Research Society Symposia Proceedings, 2012, 1478, 20.	0.1	0
93	Organic semiconductors and their application in energy harvesting. , 2012, , .		0
94	A bottom-up engineered broadband optical nanoabsorber for radiometry and energy and harnessing applications. , 2013, , .		0
95	Broad-band, High-efficiency Optical Absorbers Derived From Carbon Nanomaterials. Materials Research Society Symposia Proceedings, 2013, 1505, 1.	0.1	0
96	Graphene and The Advent of Other Layered-2D Materials for Nanoelectronics, Photonics and Related Applications. Materials Research Society Symposia Proceedings, 2013, 1549, 11-16.	0.1	0
97	Vertical carbon nanofiber arrays and nanomechanical resonators with potential for resonant sensing. , 2013, , .		0
98	Van der Waals solids: properties and device applications. , 2015, , .		0
99	Properties of 2D layered crystals: MoS², NbSe<inf>2</inf> and black phosphorus. , 2015, , .		0
100	2D material characterization for printed electronics applications. , 2015, , .		0
101	Characterization of Electronic Properties of Two-dimensional Refractory Selenides and Tellurides. MRS Advances, 2016, 1, 3229-3234.	0.5	0
102	MoS₂ synthesis and high-performance broadband photodetector. , 2016, , .		0
103	Solution-based Production of 2D-layered Materials. MRS Advances, 2016, 1, 2267-2272.	0.5	0
104	Chemical Exfoliation of Black Phosphorus for Nanoelectronics Applications. MRS Advances, 2017, 2, 3697-3702.	0.5	0
105	Analysis of multilayer black phosphorus for photodetector applications. , 2017, , .		0
106	Single and Few-Layer MoS2: CVD Synthesis, Transference, and Photodetection Application. MRS Advances, 2017, 2, 3709-3714.	0.5	0
107	Characterization of Few layer Tungsten diselenide based FET under Thermal Excitation. MRS Advances, 2017, 2, 3721-3726.	0.5	0
108	Hybrid Zero-Dimensional C60 clusters with Graphene â€" Synthesis, Fabrication and Transport Characteristics. MRS Advances, 2017, 2, 3727-3732.	0.5	0

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109	Electrical Characterization and Nanoindentation of Opto-electro-mechanical Percolative Composites from 2D Layered Materials. MRS Advances, 2017, 2, 3741-3747.	0.5	0
110	Design and implementation of a modular communication system for the synthesis of atomically thin nanomaterials. , 2017, , .		0
111	Optoelectronic properties of graphene quantum dots with molybdenum disulfide. MRS Advances, 2019, 4, 615-620.	0.5	0
112	Simulation and Fabrication of Inkjet-Printed mm-Sized Capacitors for Wearable Temperature Sensing Applications. , 2020, , .		0
113	Photocurrent Generation Mechanisms in Molybdenumâ€Contacted Semiconducting Black Phosphorus and Contributions from the Photobolometric Effect. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2100196.	0.8	0
114	<I>A Special Issue on</I> Nanoscale Materials, Structures and Devices for Sensors and Systems Applications. Nanoscience and Nanotechnology Letters, 2010, 2, 63-64.	0.4	0
115	Photocurrent enhancement of CVD MoS2 photodetector via nanoplasmonics. , 2019, , .		0
116	Enhancement of optical properties by incorporating Au quantum dots in CVD WSe2 based photodetector. , 2019, , .		0
117	Doping graphene with carbon-based cage molecules for optoelectronic devices. , 2020, , .		0