

# Sanjay K Banerjee

## List of Publications by Year in descending order

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78  
papers

3,864  
citations

257450

24  
h-index

123424

61  
g-index

79  
all docs

79  
docs citations

79  
times ranked

6512  
citing authors

#	ARTICLE	IF	CITATIONS
1	Evidence for moiré excitons in van der Waals heterostructures. Nature, 2019, 567, 71-75.	27.8	933
2	Realization of a high mobility dual-gated graphene field-effect transistor with Al <sub>2</sub> O <sub>3</sub> dielectric. Applied Physics Letters, 2009, 94, .	3.3	827
3	van der Waals Heterostructures with High Accuracy Rotational Alignment. Nano Letters, 2016, 16, 1989-1995.	9.1	477
4	Air Stable Doping and Intrinsic Mobility Enhancement in Monolayer Molybdenum Disulfide by Amorphous Titanium Suboxide Encapsulation. Nano Letters, 2015, 15, 4329-4336.	9.1	167
5	Shubnikova de Haas Oscillations of High-Mobility Holes in Monolayer and Bilayer $WSe_2$ Landau Level Degeneracy, Effective Mass, and Negative Compressibility. Physical Review Letters, 2016, 116, 086601.	7.8	72
6	Reconfigurable Complementary Monolayer MoTe <sub>2</sub> Field-Effect Transistors for Integrated Circuits. ACS Nano, 2017, 11, 4832-4839.	14.6	108
7	Defect passivation of transition metal dichalcogenides via a charge transfer van der Waals interface. Science Advances, 2017, 3, e1701661.	10.3	95
8	Two-dimensional weak anti-localization in Bi <sub>2</sub> Te <sub>3</sub> thin film grown on Si(111)-(7×7) surface by molecular beam epitaxy. Applied Physics Letters, 2013, 102, .	3.3	72
9	Density-Dependent Quantum Hall States and Zeeman Splitting in Monolayer and Bilayer $WSe_2$ Physical Review Letters, 2017, 118, 247701.	7.8	72
10	Large effective mass and interaction-enhanced Zeeman splitting of $K$ -valley electrons in $MoSe_2$ Physical Review B, 2018, 97, .	3.2	72
11	Stability Improvement of Perovskite Solar Cells by Compositional and Interfacial Engineering. Chemistry of Materials, 2021, 33, 1540-1570.	6.7	65
12	Nonpolar Resistive Switching of Multilayer $hBN$ -Based Memories. Advanced Electronic Materials, 2020, 6, 1900979.	5.1	42
13	Single heterojunction solar cells on exfoliated flexible $\sim 1/4$ m thick mono-crystalline silicon substrates. Applied Physics Letters, 2013, 102, .	3.3	39
14	Carrier Trapping by Oxygen Impurities in Molybdenum Diselenide. ACS Applied Materials & Interfaces, 2018, 10, 1125-1131.	8.0	37
15	Application of Perovskite Quantum Dots as an Absorber in Perovskite Solar Cells. Angewandte Chemie - International Edition, 2022, 61, e202112412.	13.8	37
16	Visualization of Local Conductance in $MoS_2/WSe_2$ Heterostructure Transistors. Nano Letters, 2019, 19, 1976-1981.	9.1	36
17	Graphene-Al <sub>2</sub> O <sub>3</sub> -silicon heterojunction solar cells on flexible silicon substrates. Journal of Applied Physics, 2017, 121, .	2.5	34
18	The microscopic origin of DMI in magnetic bilayers and prediction of giant DMI in new bilayers. Npj Computational Materials, 2020, 6, .	8.7	32

#	ARTICLE	IF	CITATIONS
19	Strong spin-orbit coupling and Zeeman spin splitting in angle dependent magnetoresistance of Bi <sub>2</sub> Te <sub>3</sub> . Applied Physics Letters, 2014, 104, .	3.3	29
20	Effects of Electrode Layer Band Structure on the Performance of Multilayer Graphene-hBN-Graphene Interlayer Tunnel Field Effect Transistors. Nano Letters, 2016, 16, 4975-4981.	9.1	28
21	Accelerated carrier recombination by grain boundary/edge defects in MBE grown transition metal dichalcogenides. APL Materials, 2018, 6, .	5.1	25
22	Silicon interstitials at Si-SiO <sub>2</sub> interfaces: Density functional calculations. Physical Review B, 2005, 72, .	3.2	24
23	Gate-first inversion-type InP metal-oxide-semiconductor field-effect transistors with atomic-layer-deposited Al <sub>2</sub> O <sub>3</sub> gate dielectric. Applied Physics Letters, 2008, 92, 233508.	3.3	24
24	In Situ Observation of Initial Stage in Dielectric Growth and Deposition of Ultrahigh Nucleation Density Dielectric on Two-Dimensional Surfaces. Nano Letters, 2015, 15, 6626-6633.	9.1	24
25	Inversion-type indium phosphide metal-oxide-semiconductor field-effect transistors with equivalent oxide thickness of 12Å... using stacked HfAlOx-HfO <sub>2</sub> gate dielectric. Applied Physics Letters, 2008, 92, 253506.	3.3	23
26	Tunable Valley Populations in Hole-Doped Trilayer WSe <sub>2</sub> Physical Review Letters, 2018, 120, 107703.	7.8	23
27	Progress in Materials Development for the Rapid Efficiency Advancement of Perovskite Solar Cells. Small, 2020, 16, e1907531.	10.0	23
28	Vertical Flash Memory Cell With Nanocrystal Floating Gate for Ultradense Integration and Good Retention. IEEE Electron Device Letters, 2007, 28, 449-451.	3.9	21
29	Band Structure Engineering of Layered WSe <sub>2</sub> via One-Step Chemical Functionalization. ACS Nano, 2019, 13, 7545-7555.	14.6	21
30	Hole Mobility and Thermal Velocity Enhancement for Uniaxial Stress in Si up to 4 GPa. IEEE Transactions on Electron Devices, 2007, 54, 291-296.	3.0	20
31	Rational design principles for giant spin Hall effect in 5d-transition metal oxides. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 11878-11886.	7.1	20
32	DFT simulations of inter-graphene-layer coupling with rotationally misaligned hBN tunnel barriers in graphene/hBN/graphene tunnel FETs. Journal of Applied Physics, 2016, 120, .	2.5	18
33	Physical and electrical characterizations of metal-oxide-semiconductor capacitors fabricated on GaAs substrates with different surface chemical treatments and Al <sub>2</sub> O <sub>3</sub> gate dielectric. Journal of Vacuum Science & Technology B, 2009, 27, 2390-2395.	1.3	17
34	Conversion of spin current into charge current in a topological insulator: Role of the interface. Physical Review B, 2018, 97, .	3.2	17
35	Strained-Si/strained-Ge type-II staggered heterojunction gate-normal-tunneling field-effect transistor. Applied Physics Letters, 2013, 103, .	3.3	16
36	Electron redistribution and energy transfer in graphene/MoS <sub>2</sub> heterostructure. Applied Physics Letters, 2019, 114, .	3.3	15

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37	High-frequency prospects of 2D nanomaterials for flexible nanoelectronics from baseband to sub-THz devices. , 2015, , .		14
38	Contact Engineering of Layered MoS <sub>2</sub> via Chemically Dipping Treatments. Advanced Functional Materials, 2020, 30, 2000250.	14.9	14
39	A simulation study of voltage-assisted low-energy switching of a perpendicular anisotropy ferromagnet on a topological insulator. Journal of Computational Electronics, 2017, 16, 120-126.	2.5	11
40	On the Electrostatic Control of Gate-Normal-Tunneling Field-Effect Transistors. IEEE Transactions on Electron Devices, 2015, 62, 2292-2299.	3.0	10
41	Performance Improvement of Perovskite Solar Cells by Interactions between Nano-Sized Quantum Dots and Perovskite. Advanced Functional Materials, 2022, 32, .	14.9	10
42	Device characteristics of HfON charge-trap layer nonvolatile memory. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2010, 28, 1005-1010.	1.2	9
43	Localization and interaction effects of epitaxial Bi <sub>2</sub> Se <sub>3</sub> bulk states in two-dimensional limit. Journal of Applied Physics, 2016, 120, 164301.	2.5	9
44	Application of Perovskite Quantum Dots as Absorber for Perovskite Solar Cell. Angewandte Chemie, 0, , e202112412.	2.0	8
45	Simultaneous shallow-junction formation and gate doping p-channel metal-semiconductor-oxide field-effect transistor process using cobalt silicide as a diffusion/doping source. Applied Physics Letters, 1994, 64, 345-347.	3.3	7
46	First-principles studies of small arsenic interstitial complexes in crystalline silicon. Physical Review B, 2009, 79, .	3.2	7
47	Quantum transport simulation of exciton condensate transport physics in a double-layer graphene system. Physical Review B, 2015, 92, .	3.2	7
48	ReS <sub>2</sub> -based interlayer tunnel field effect transistor. Journal of Applied Physics, 2017, 122, .	2.5	7
49	Recent progress on measurement of spin-charge interconversion in topological insulators using ferromagnetic resonance. APL Materials, 2021, 9, .	5.1	7
50	On strain and scattering in deeply-scaled n-channel MOSFETs: A quantum-corrected semiclassical Monte Carlo analysis. , 2008, , .		6
51	Fast and slow transient charging in various III-V field-effect transistors with atomic-layer-deposited-Al <sub>2</sub> O <sub>3</sub> gate dielectric. Applied Physics Letters, 2013, 102, .	3.3	6
52	Versatile Large-Area Custom-Feature van der Waals Epitaxy of Topological Insulators. ACS Nano, 2017, 11, 7457-7467.	14.6	6
53	Effects of InP barrier layer thicknesses and different ALD oxides on device performance of In <sub>0.7</sub> Ga <sub>0.3</sub> As MOSFETs. , 2010, , .		5
54	Large Magnetoresistance at Room Temperature in Ferromagnet/Topological Insulator Contacts. IEEE Nanotechnology Magazine, 2016, 15, 671-674.	2.0	5

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55	Modeling all-electrical detection of the inverse Edelstein effect by spin-polarized tunneling in a topological-insulator/ferromagnetic-metal heterostructure. <i>Physical Review B</i> , 2018, 97, .	3.2	5
56	Ultra-Thin Si <sup>1-x</sup> Ge <sup>x</sup> Dislocation Blocking Layers for Ge/Strained Si CMOS Devices. <i>Journal of Electronic Materials</i> , 2007, 36, 641-647.	2.2	4
57	Impact of contact and access resistances in graphene field-effect transistors on quartz substrates for radio frequency applications. <i>Applied Physics Letters</i> , 2014, 104, .	3.3	4
58	Full-band simulations of single-particle resonant tunneling in transition metal dichalcogenide-based interlayer tunneling field-effect transistors. , 2016, , .		4
59	Bilayer Pseudospin Junction Transistor (BiSJT) for "Beyond-CMOS" Logic. <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 4759-4762.	3.0	4
60	Monte Carlo Study of Si, Ge, and In <sub>0.53</sub> Ga <sub>0.47</sub> As n-Channel FinFET Scaling: Channel Orientation, Quantum Confinement, Doping, and Contacts. <i>IEEE Nanotechnology Magazine</i> , 2020, 14, 17-31.	1.3	4
61	Reduced Gate-Leakage Current and Charge Trapping Characteristics of Dysprosium-Incorporated $\text{HfO}_2$ Gate-Oxide n-MOS Devices. <i>IEEE Transactions on Electron Devices</i> , 2011, 58, 562-566.	3.0	3
62	Comment on "Assessment of field-induced quantum confinement in heterogate germanium electron-hole bilayer tunnel field-effect transistor" [Appl. Phys. Lett. 105, 082108 (2014)]. <i>Applied Physics Letters</i> , 2015, 106, 026102.	3.3	3
63	Detection of current induced spin polarization in epitaxial Bi <sub>2</sub> Te <sub>3</sub> thin film. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	3
64	Semi-classical ensemble Monte Carlo simulator using innovative quantum corrections for nano-scale n-channel FinFETs. , 2014, , .		2
65	Effect of rotational misalignment on interlayer coupling in a graphene/hBN/graphene van der Waal's heterostructure. , 2016, , .		2
66	Valence and conduction band offsets at beryllium oxide interfaces with silicon carbide and III-V nitrides. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2019, 37, 041206.	1.2	2
67	Theory of spin detection on the surface of diffusive topological insulators by means of ferromagnets: Establishing Onsager reciprocity and the importance of tunnel contact. <i>Physical Review B</i> , 2019, 100, .	3.2	2
68	Density-functional-theory-based study of monolayer MoS <sub>2</sub> on oxide. , 2014, , .		1
69	A universal model for interface-type threshold switching phenomena by comprehensive study of Vanadium oxide-based selector. , 2017, , .		1
70	Two-dimensional transport model of spin-polarized tunneling in a topological-insulator/tunnel-barrier/ferromagnetic-metal heterostructure. <i>Physical Review B</i> , 2020, 102, .	3.2	1
71	Method to enhance resonant interlayer tunneling in bilayer-graphene systems. <i>Journal of Computational Electronics</i> , 2021, 20, 1868-1873.	2.5	1
72	Using Self-assembly and Selective Chemical Vapor Deposition for Precise Positioning of Individual Germanium Nanoparticles on Hafnia. <i>Materials Research Society Symposia Proceedings</i> , 2006, 921, 1.	0.1	0

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73	Breakdown mechanism for the thin EOT Dy <sub>2</sub> O <sub>3</sub> /HfO <sub>2</sub> dielectric. , 2008, , .		0
74	Role of Boron TED and Series Resistance in SiGe/Si Heterojunction pMOSFETs. Materials Research Society Symposia Proceedings, 2009, 1155, 1.	0.1	0
75	Neural Network Modeling of Degradation of Solar Cells. , 2011, , .		0
76	Germanium nMOSFETs with GeO <sub>2</sub> Passivation and n+/p Junctions Formed by Spin-On Dopants. , 2012, , .		0
77	Thin, relaxed Si <sub>1-x</sub> Ge <sub>x</sub> virtual substrates on Si grown using C-doped Ge buffers. Applied Physics Letters, 2014, 105, 152107.	3.3	0
78	Improved cleaning process for post-texture surface contamination removal for single heterojunction solar cells on ~25µm thick exfoliated and flexible mono-crystalline silicon substrates. , 2014, , .		0