Darshana Wickramaratne

List of Publications by Year
in descending order

68	2,938	257357 24	168321 53
papers	citations	h-index	g-index

69	69	69	5599
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Tin Disulfideâ€"An Emerging Layered Metal Dichalcogenide Semiconductor: Materials Properties and Device Characteristics. ACS Nano, 2014, 8, 10743-10755.	7.3	449
2	Electronic and thermoelectric properties of few-layer transition metal dichalcogenides. Journal of Chemical Physics, 2014, 140, 124710.	1.2	321
3	Gate tunable quantum oscillations in air-stable and high mobility few-layer phosphorene heterostructures. 2D Materials, 2015, 2, 011001.	2.0	209
4	Charge Density Waves in Exfoliated Films of van der Waals Materials: Evolution of Raman Spectrum in TiSe₂. Nano Letters, 2012, 12, 5941-5945.	4.5	154
5	Monolayer to Bulk Properties of Hexagonal Boron Nitride. Journal of Physical Chemistry C, 2018, 122, 25524-25529.	1.5	134
6	Exciton Fine Structure in Perovskite Nanocrystals. Nano Letters, 2019, 19, 4068-4077.	4.5	128
7	Electronic and thermoelectric properties of van der Waals materials with ring-shaped valence bands. Journal of Applied Physics, 2015, 118, .	1.1	120
8	Fundamentals of lateral and vertical heterojunctions of atomically thin materials. Nanoscale, 2016, 8, 3870-3887.	2.8	117
9	Towards van der Waals Epitaxial Growth of GaAs on Si using a Graphene Buffer Layer. Advanced Functional Materials, 2014, 24, 6629-6638.	7.8	113
10	Direct Bandgap Transition in Manyâ€Layer MoS₂ by Plasmaâ€Induced Layer Decoupling. Advanced Materials, 2015, 27, 1573-1578.	11.1	102
11	Zone-Folded Phonons and the Commensurateâ€"Incommensurate Charge-Density-Wave Transition in 1T-TaSe₂ Thin Films. Nano Letters, 2015, 15, 2965-2973.	4.5	94
12	Iron as a source of efficient Shockley-Read-Hall recombination in GaN. Applied Physics Letters, 2016, 109, .	1.5	64
13	A first-principles understanding of point defects and impurities in GaN. Journal of Applied Physics, 2021, 129, .	1.1	55
14	Phase Engineering of 2D Tin Sulfides. Small, 2016, 12, 2998-3004.	5.2	51
15	Defect identification based on first-principles calculations for deep level transient spectroscopy. Applied Physics Letters, 2018, 113, .	1.5	51
16	Nonrad: Computing nonradiative capture coefficients from first principles. Computer Physics Communications, 2021, 267, 108056.	3.0	50
17	Prospects for n-type doping of (AlxGa1â^'x)2O3 alloys. Applied Physics Letters, 2020, 116, .	1.5	44
18	Exciton condensate in bilayer transition metal dichalcogenides: Strong coupling regime. Physical Review B, 2017, 96, .	1.1	43

#	Article	IF	Citations
19	Ising Superconductivity and Magnetism in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>NbSe</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn>	2.8	36
20	Role of defects in the metal-insulator transition in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">VO</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">V</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B,	1.1	32
21	Electrical and optical properties of iron in GaN, AlN, and InN. Physical Review B, 2019, 99, .	1.1	30
22	A comparative first-principles study of the electronic, mechanical, defect and acoustic properties of Ti₂AlC and Ti₃AlC. Journal Physics D: Applied Physics, 2014, 47, 215301.	1.3	27
23	Theoretical and experimental study of highly textured GaAs on silicon using a graphene buffer layer. Journal of Crystal Growth, 2015, 425, 268-273.	0.7	25
24	Band bowing and the direct-to-indirect crossover in random BAlN alloys. Physical Review Materials, 2017, 1, .	0.9	25
25	Hybrid functional study of native point defects and impurities in ZnGeN2. Journal of Applied Physics, 2017, 122, .	1.1	22
26	Synthesis of Atomically Thin <inline-formula><tex-math>${f MoS}_{f 2}$</tex-math></inline-formula> Triangles and Hexagrams and Their Electrical Transport Properties. IEEE Nanotechnology Magazine, 2014, 13, 749-754.	1.1	21
27	Two step growth phenomena of molybdenum disulfideâ€“tungsten disulfide heterostructures. Chemical Communications, 2015, 51, 11213-11216.	2.2	21
28	Direct-Write of Nanoscale Domains with Tunable Metamagnetic Order in FeRh Thin Films. ACS Applied Materials & Interfaces, 2021, 13, 836-847.	4.0	21
29	Calcium as a nonradiative recombination center in InGaN. Applied Physics Express, 2017, 10, 021001.	1.1	19
30	Band alignments and polarization properties of the Zn-IV-nitrides. Journal of Materials Chemistry C, 2020, 8, 7890-7898.	2.7	19
31	First-principles study of bandgap bowing in BGaN alloys. Journal of Applied Physics, 2019, 126, 095706.	1.1	18
32	Role of carbon and hydrogen in limiting <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -type doping of monoclinic <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mo>(</mml:mo><mml:msub><mml:mi>Al</mml:mi><mml:mi>ma. Physical Review B, 2022, 105, .	1.1	18
33	Diffusion of tellurium at nickel grain boundaries: a first-principles study. RSC Advances, 2017, 7, 8421-8428.	1.7	17
34	Strategies for p-type doping of ZnGeN2. Applied Physics Letters, 2019, 114, .	1.5	17
35	Charged impurity scattering in two-dimensional materials with ring-shaped valence bands: GaS, GaSe, InS, and InSe. Physical Review B, 2019, 99, .	1.1	17
36	A first-principles study on the defective properties of MAX phase Cr₂AlC: the magnetic ordering and strong correlation effect. RSC Advances, 2016, 6, 84262-84268.	1.7	16

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37	Stacking-dependent optical properties in bilayer WSe₂. Nanoscale, 2021, 14, 147-156.	2.8	16
38	Finite-size correction for slab supercell calculations of materials with spontaneous polarization. Npj Computational Materials, 2021, 7, .	3.5	14
39	Synthesis, characterization, and electronic structure of few-layer MoSe₂ granular films. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 2671-2676.	0.8	13
40	Deepâ€Level Defects and Impurities in InGaN Alloys. Physica Status Solidi (B): Basic Research, 2020, 257, 1900534.	0.7	13
41	Strong Circularly Polarized Photoluminescence from Multilayer MoS₂ Through Plasma Driven Direct-Gap Transition. ACS Photonics, 2016, 3, 310-314.	3.2	12
42	Interlayer transport through a graphene/rotated boron nitride/graphene heterostructure. Physical Review B, 2017, 95, .	1.1	12
43	Interlayer resistance of misoriented MoS₂. Physical Chemistry Chemical Physics, 2017, 19, 10406-10412.	1.3	12
44	Li⁺ Diffusion in Amorphous and Crystalline Al₂O₃ for Battery Electrode Coatings. Chemistry of Materials, 2021, 33, 7795-7804.	3.2	12
45	Comment on â€œComparative study of ab initio nonradiative recombination rate calculations under different formalismsâ€• Physical Review B, 2018, 97, .	1.1	11
46	A first-principles investigation of the electronic, elastic, piezoelectric and acoustic properties of K3B6O10Cl. Computational Materials Science, 2013, 69, 81-86.	1.4	10
47	Thermodynamics of boron incorporation in BGaN. Physical Review Materials, 2021, 5, .	0.9	10
48	Metallic vs. semiconducting properties of quasi-one-dimensional tantalum selenide van der Waals nanoribbons. Nanoscale, 2022, 14, 6133-6143.	2.8	10
49	Implementation of a Direct Sequence Spread Spectrum Baseband Transmitter Using Silicon Nanowire Technology. Journal of Nanoelectronics and Optoelectronics, 2010, 5, 1-12.	0.1	9
50	Prospects for n-type conductivity in cubic boron nitride. Applied Physics Letters, 2021, 119, .	1.5	9
51	Optical transitions of neutral Mg in Mg-doped Î²-Ga2O3. APL Materials, 2022, 10, .	2.2	9
52	Nontrivial Doping Evolution of Electronic Properties in Isingâ€Superconducting Alloys. Advanced Materials, 2022, , 2200492.	11.1	9
53	Coulomb impurity scattering in topological insulator thin films. Applied Physics Letters, 2014, 105, 033118.	1.5	8
54	Optimizing <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -type doping of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>ZnGeN</mml:mi><mml:mn>2</mml:mn></mml:msub></ and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>ZnSiN</mml:mi><mml:mn>2</mml:mn></mml:msub></m	1.1	8

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55	Impact of biaxial and uniaxial strain on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">V</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2019, 100, .	1.1	8
56	Tunneling spectroscopy of chiral states in ultra-thin topological insulators. Journal of Applied Physics, 2013, 113, 063707.	1.1	6
57	Magnetism-driven unconventional effects in Ising superconductors: Role of proximity, tunneling, and nematicity. Physical Review B, 2021, 104, .	1.1	6
58	Photoinduced chiral charge density wave in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>TiSe</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review B, 2022, 105, .	1.1	5
59	Effect of alloying in monolayer niobium dichalcogenide superconductors. Nature Communications, 2022, 13, 2376.	5.8	5
60	Design of AlGaN-based lasers with a buried tunnel junction for sub-300 nm emission. Semiconductor Science and Technology, 2019, 34, 074002.	1.0	4
61	Two-Dimensional Layered Semiconductor Tungsten Disulfide and Molybdenum-Tungsten Disulfide: Synthesis, Materials Properties and Electronic Structure. Journal of Nanoscience and Nanotechnology, 2016, 16, 8419-8423.	0.9	2
62	Laser-Patterned Submicrometer Bi₂Se₃â€“WS₂ Pixels with Tunable Circular Polarization at Room Temperature. ACS Applied Materials & Interfaces, 2022, 14, 9504-9514.	4.0	2
63	Spin-Sensitive Epitaxial In₂Se₃ Tunnel Barrier in In₂Se₃/Bi₂Se₃ Topological van der Waals Heterostructure. ACS Applied Materials & Interfaces, 2022, 14, 34093-34100.	4.0	2
64	Direct-Write of Nanoscale Domains with Tunable Metamagnetic Order in FeRh Thin Films. , 0, .		1
65	Computational study of the mobility in ultra-thin topological insulator films. , 2013, , .		0
66	Bulk direct band gap MoS<inf>2</inf> by plasma induced layer decoupling. , 2015, , .		0
67	The impact of the ring shaped valence band in few-layer iii-vi materials on fet operation. , 2015, , .		0
68	Publisher's Note: Band bowing and the direct-to-indirect crossover in random BAlN alloys [Phys. Rev. Materials 1 , 065001 (2017)]. Physical Review Materials, 2018, 2, .	0.9	0