Bivas Saha

List of Publications by Year in Descending Order

51 papers	1,038 citations	18 h-index	31 g-index
60 ext. papers	1,266 ext. citations	4.1 avg, IF	4.49 L-index

#	Paper	IF	Citations
51	Secondary phase limited metal-insulator phase transition in chromium nitride thin films. *Acta Materialia*, **2022**, 227, 117737	8.4	1
50	Electronic structure of rare-earth semiconducting ErN thin films determined with synchrotron radiation photoemission spectroscopy and first-principles analysis. *Physical Review B*, **2022**, 105,	3.3	1
49	Detailed study of reactively sputtered ScN thin films at room temperature. *Materialia*, **2022**, 22, 101375	3.2	0
48	High thermoelectric power factor in ambient-stable semiconducting rare-earth ErN thin films. *Applied Physics Letters*, **2021**, 118, 132103	3.4	2
47	Reducing high carrier concentration in rocksalt-AlxSc1-xN with Mg acceptor doping. *Applied Physics Letters*, **2021**, 118, 202107	3.4	
46	Anisotropic epsilon-near-pole (ENP) resonance leads to hyperbolic photonic dispersion in homologous (Bi2)m(Bi2Se3)n topological quantum materials. *Applied Physics Letters*, **2021**, 119, 011902	3.4	1
45	Giant enhancement of plasmonic response and epsilon-near-zero signature in refractory transition metals (Ta, W, and Mo) deposited at high-temperature. *Applied Physics Letters*, **2021**, 118, 041902	3.4	1
44	Clustering of oxygen point defects in transition metal nitrides. *Journal of Applied Physics*, **2021**, 129, 055305	2.5	3
43	Twinned growth of ScN thin films on lattice-matched GaN substrates. *Materials Research Bulletin*, **2021**, 143, 111443	5.1	1
42	Reduced optical losses in refractory plasmonic titanium nitride thin films deposited with molecular beam epitaxy. *Optical Materials Express*, **2020**, 10, 2679	2.6	13
41	Influence of AlN buffer layer on molecular beam epitaxy growth of wurtzite Al1−xScxN thin films. *Bulletin of Materials Science*, **2020**, 43, 1	1.7	
40	Thermally stable epitaxial ZrN/carrier-compensated Sc0.99Mg0.01N metal/semiconductor multilayers for thermionic energy conversion. *Journal of Materials Science*, **2020**, 55, 1592-1602	4.3	6
39	Interfacial chemistry and electronic structure of epitaxial lattice-matched TiN/Al0.72Sc0.28N metal/semiconductor superlattices determined with soft x-ray scattering. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2020**, 38, 053201	2.9	2
38	Effects of adatom mobility and Ehrlich–Schwoebel barrier on heteroepitaxial growth of scandium nitride (ScN) thin films. *Applied Physics Letters*, **2020**, 117, 212101	3.4	7
37	Charge Transfer in the Heterostructure of CsPbBr Nanocrystals with Nitrogen-Doped Carbon Dots. *Journal of Physical Chemistry Letters*, **2020**, 11, 8002-8007	6.4	14
36	Phononic bandgap and phonon anomalies in HfN and HfN/ScN metal/semiconductor superlattices measured with inelastic x-ray scattering. *Applied Physics Letters*, **2020**, 117, 111901	3.4	1
35	High mobility and high thermoelectric power factor in epitaxial ScN thin films deposited with plasma-assisted molecular beam epitaxy. *Applied Physics Letters*, **2020**, 116, 152103	3.4	12

34	Reducing adhesion energy of nano-electro-mechanical relay contacts by self-assembled Perfluoro (2,3-Dimethylbutan-2-ol) coating. *AIP Advances*, **2019**, 9, 055329	1.5	4
33	Wave-Vector-Dependent Raman Scattering from Coupled Plasmon–Longitudinal Optical Phonon Modes and Fano Resonance in n-type Scandium Nitride. *Physica Status Solidi - Rapid Research Letters* , **2019**, 13, 1900196	2.5	5
32	Rigid-band electronic structure of scandium nitride across the n-type to p-type carrier transition regime. *Physical Review B*, **2019**, 99,	3.3	15
31	Epitaxial Nitride Thin Film and Heterostructures: From Hard Coating to Solid State Energy Conversion **2019**,		1
30	Development of semiconducting ScN. *Physical Review Materials*, **2019**, 3,	3.2	27
29	Schottky barrier height of epitaxial lattice-matched TiN/Al0.72Sc0.28N metal/semiconductor superlattice interfaces for thermionic energy conversion. *Applied Physics Letters*, **2019**, 115, 251901	3.4	8
28	A 0.2 V Micro-Electromechanical Switch Enabled by a Phase Transition. *Small*, **2018**, 14, e1703621	11	15
27	Rocksalt nitride metal/semiconductor superlattices: A new class of artificially structured materials. *Applied Physics Reviews*, **2018**, 5, 021101	17.3	42
26	Temperature-dependent thermal and thermoelectric properties of n-type and p-type Sc1−xMgxN. *Physical Review B*, **2018**, 97,	3.3	26
25	Variability Study for Low-Voltage Microelectromechanical Relay Operation. *IEEE Transactions on Electron Devices*, **2018**, 65, 1529-1534	2.9	6
24	Tailoring of surface plasmon resonances in TiN/(Al0.72Sc0.28)N multilayers by dielectric layer thickness variation. *Journal of Materials Science*, **2018**, 53, 4001-4009	4.3	15
23	Phonon wave effects in the thermal transport of epitaxial TiN/(Al,Sc)N metal/semiconductor superlattices. *Journal of Applied Physics*, **2017**, 121, 015109	2.5	31
22	Dislocation-pipe diffusion in nitride superlattices observed in direct atomic resolution. *Scientific Reports*, **2017**, 7, 46092	4.9	39
21	Reducing adhesion energy of micro-relay electrodes by ion beam synthesized oxide nanolayers. *APL Materials*, **2017**, 5, 036103	5.7	1
20	Compensation of native donor doping in ScN: Carrier concentration control and p-type ScN. *Applied Physics Letters*, **2017**, 110, 252104	3.4	42
19	Void-mediated coherency-strain relaxation and impediment of cubic-to-hexagonal transformation in epitaxial metastable metal/semiconductor TiN/Al0.72Sc0.28N multilayers. *Physical Review Materials*, **2017**, 1,	3.2	8
18	Cross-plane thermal conductivity of (Ti,W)N/(Al,Sc)N metal/semiconductor superlattices. *Physical Review B*, **2016**, 93,	3.3	55
17	Microstructural evolution and thermal stability of HfN/ScN, ZrN/ScN, and Hf0.5Zr0.5N/ScN metal/semiconductor superlattices. *Journal of Materials Science*, **2016**, 51, 8250-8258	4.3	18

16	Microstructural evolution and thermal stability of nitride-based metal/semiconductor superlattices for thermoelectric and hard-coating applications **2016**, 237-238		
15	Pressure-induced structural transition of CdxZn1□O alloys. *Applied Physics Letters*, **2016**, 108, 152105	3.4	9
14	Understanding the Rocksalt-to-Wurtzite phase transformation through microstructural analysis of (Al,Sc)N epitaxial thin films. *Applied Physics Letters*, **2016**, 109, 172102	3.4	10
13	Sub-50 mV NEM relay operation enabled by self-assembled molecular coating **2016**,		18
12	Thermal stability of epitaxial cubic-TiN/(Al,Sc)N metal/semiconductor superlattices. *Journal of Materials Science*, **2015**, 50, 3200-3206	4.3	22
11	Development of epitaxial AlxSc1□N for artificially structured metal/semiconductor superlattice metamaterials. *Physica Status Solidi (B): Basic Research*, **2015**, 252, 251-259	1.3	40
10	Epitaxial superlattices with titanium nitride as a plasmonic component for optical hyperbolic metamaterials. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 7546-51	11.5	164
9	TiN/(Al,Sc)N metal/dielectric superlattices and multilayers as hyperbolic metamaterials in the visible spectral range. *Physical Review B*, **2014**, 90,	3.3	41
8	Enhanced hardness in epitaxial TiAlScN alloy thin films and rocksalt TiN/(Al,Sc)N superlattices. *Applied Physics Letters*, **2014**, 105, 151904	3.4	21
7	Electronic and optical properties of ScN and (Sc,Mn)N thin films deposited by reactive DC-magnetron sputtering. *Journal of Applied Physics*, **2013**, 114, 063519	2.5	38
6	Thermoelectric properties of epitaxial ScN films deposited by reactive magnetron sputtering onto MgO(001) substrates. *Journal of Applied Physics*, **2013**, 113, 153704	2.5	71
5	Thermoelectric properties of HfN/ScN metal/semiconductor superlattices: a first-principles study. *Journal of Physics Condensed Matter*, **2012**, 24, 415303	1.8	18
4	First-principles analysis of ZrN/ScN metal/semiconductor superlattices for thermoelectric energy conversion. *Journal of Applied Physics*, **2011**, 109, 083717	2.5	19
3	Electronic structure, vibrational spectrum, and thermal properties of yttrium nitride: A first-principles study. *Journal of Applied Physics*, **2011**, 109, 073720	2.5	40
2	Electronic structure, phonons, and thermal properties of ScN, ZrN, and HfN: A first-principles study. *Journal of Applied Physics*, **2010**, 107, 033715	2.5	102
1	Vibrational Spectrum and Thermal Conductivity of Rare-Earth Semiconducting Erbium Nitride Thin Films. *Physica Status Solidi - Rapid Research Letters*,2200029	2.5	0