A S Verma

List of Publications by Year in Descending Order

98 papers	1,192 citations	18 h-index	29 g-index
115 ext. papers	1,473 ext. citations	2.7 avg, IF	5.13 L-index

#	Paper	IF	Citations
98	Comprehensive ab-initio calculations of AlNiX (X = P, As and Sb) half-Heusler compounds: Stabilities and applications as green energy resources. *Materials Chemistry and Physics*, **2022**, 275, 125233	4.4	0
97	First-principles calculations for fundamental and spectroscopic screening of hybrid perovskite (HC(NH2)2PbI3) formamidinium lead iodide. *Materials Chemistry and Physics*, **2022**, 126149	4.4	1
96	An efficient and stable lead-free organic–inorganic tin iodide perovskite for photovoltaic device: Progress and challenges. *Energy Reports*, **2022**, 8, 5753-5763	4.6	1
95	Fundamental theoretical design of Na-ion and K-ion based double antiperovskite X6SOA2 (X = Na, K; A = Cl, Br and I) halides: Potential candidate for energy storage and harvester. *International Journal of Energy Research*, **2021**, 45, 13442-13460	4.5	5
94	Emerging potential photovoltaic absorber hybrid halide perovskites (CH3CH2NH3PbX3; X = Br, Cl) materials: an ab-initio calculation. *International Journal of Energy Research*, **2021**, 45, 15231-15244	4.5	1
93	Mechanically stable with highly absorptive formamidinium lead halide perovskites [(HC(NH2)2PbX3; X = Br, Cl]: Recent advances and perspectives. *International Journal of Quantum Chemistry*, **2021**, 121, e26671	2.1	3
92	Electronic and thermo-physical properties of double antiperovskites X6SOA2 (X = Na, K and A = Cl, Br, I): A non-toxic and efficient energy storage materials. *International Journal of Quantum Chemistry*, **2021**, 121, e26759	2.1	1
91	First-principles calculations of inherent properties of Rb based state-of-the-art half-Heusler compounds: promising materials for renewable energy applications. *Physica Scripta*, **2021**, 96, 115802	2.6	2
90	First-principles spectroscopic screening of hybrid perovskite (CH 3 CH 2 NH 3 PbI 3) with fundamental physical properties: A potential photovoltaic absorber. *International Journal of Energy Research*, **2021**, 45, 908-919	4.5	5
89	Investigation of inherent properties of XScZ (X = Li, Na, K; Z = C, Si, Ge) half-Heusler compounds: Appropriate for photovoltaic and thermoelectric applications. *Physica B: Condensed Matter*, **2021**, 615, 412536	2.8	8
88	Effect of nanostructuring on surface oxidation of bismuth telluride. *Materials Today: Proceedings*, **2021**, 38, 1255-1258	1.4	
87	Calculation of electronic and optical properties of methylammonium lead iodide perovskite for application in solar cell. *Environmental Science and Pollution Research*, **2021**, 28, 25382-25389	5.1	1
86	Emerging potential antiperovskite materials ANX3 (A= P, As, Sb, Bi; X= Sr, Ca, Mg) for thermoelectric renewable energy generators. *Journal of Solid State Chemistry*, **2021**, 300, 122246	3.3	3
85	Computational determination of the physical-thermoelectric parameters of tin-based organomatallic halide perovskites (CH3NH3SnX3, X = Br and I): Emerging materials for optoelectronic devices. *Materials Chemistry and Physics*, **2020**, 253, 123389	4.4	8
84	Computational determination of structural, electronic, optical, thermoelectric and thermodynamic properties of hybrid perovskite CH3CH2NH3GeI3: An emerging material for photovoltaic cell. *Materials Chemistry and Physics*, **2020**, 251, 123103	4.4	10
83	Effect of hybrid density functionals on half-Heusler LiZnX (X = N, P and As) semiconductors: potential materials for photovoltaic and thermoelectric applications. *Physica Scripta*, **2020**, 95, 095806	2.6	7
82	Impact of electron transport layer material on the performance of CH3NH3PbBr3 perovskite-based photodetectors. *Journal of Materials Science*, **2020**, 55, 4345-4357	4.3	7

81	Extensive investigation of structural, electronic, optical, and thermoelectric properties of hybrid perovskite (CH3NH3PbBr3) with mechanical stability constants. *International Journal of Energy Research*, **2020**, 44, 11614-11628	4.5	11
80	An emerging high performance photovoltaic device with mechanical stability constants of hybrid (HC(NH2)2PbI3) perovskite. *Journal of Materials Science: Materials in Electronics*, **2020**, 31, 18004-18017	2.1	7
79	Elemental, Optical, and Electrochemical Study of CH3NH3PbI3 Perovskite-Based Hole Transport Layer-Free Photodiode. *Semiconductors*, **2020**, 54, 1023-1031	0.7	2
78	Investigation of structural, electronic, optical and thermoelectric properties of Ethylammonium tin iodide (CH3CH2NH3SnI3): An appropriate hybrid material for photovoltaic application. *Materials Science in Semiconductor Processing*, **2020**, 115, 105111	4.3	5
77	Electrical Characterization of Hybrid Halide Perovskites Based Heterojunction Device. *Semiconductors*, **2019**, 53, 489-492	0.7	3
76	Analysis of perovskite based Schottky photodiode **2019**,		1
75	Poly-(3-hexylthiophene)/graphene composite based organic photodetectors: The influence of graphene insertion. *Thin Solid Films*, **2019**, 675, 128-135	2.2	16
74	Inverted organic solar cells based on PTB7:PC70BM bulk heterojunction **2019**,		1
73	Surface morphological, optical and electrical characterization of methylammonium lead bromide perovskite (CH3NH3PbBr3) thin film. *Physica Scripta*, **2019**, 94, 105821	2.6	9
72	Inverted-heterostructure based device of CH3NH3PbBr3 for Schottky photodiode. *EPJ Applied Physics*, **2019**, 88, 30101	1.1	2
71	Investigations of fundamental physical and thermoelectric properties of methylammonium lead iodide (CH3NH3PbI3) perovskites. *Materials Research Express*, **2019**, 6, 126323	1.7	12
70	Effect of graphene concentration on performance of MEH:PPV/graphene nanocomposite based devices. *Journal of Materials Science: Materials in Electronics*, **2018**, 29, 7979-7986	2.1	7
69	LiBH4 as solid electrolyte for Li-ion batteries with Bi2Te3 nanostructured anode. *International Journal of Hydrogen Energy*, **2018**, 43, 21709-21714	6.7	13
68	Influence of MWCNT doping on performance of polymer bulk heterojunction based devices. *Optik*, **2018**, 160, 131-137	2.5	12
67	Electrochemical hydrogen evolution and storage studies on bismuth nano hexagons. *International Journal of Hydrogen Energy*, **2018**, 43, 21642-21648	6.7	11
66	Synthesis and Characterization of Methylammonium Lead Iodide Perovskite and its Application in Planar Hetero-junction Devices. *Semiconductor Science and Technology*, **2018**, 33, 065012	1.8	18
65	Investigation of dimensionality-dependent thermal stability of ({hbox {Bi}}_{2} {hbox {Te}}_{3}). *Applied Physics A: Materials Science and Processing*, **2018**, 124, 1	2.6	2
64	C60 Concentration Influence on MEH-PPV:C60 Bulk Heterojunction-Based Schottky Devices. *Journal of Electronic Materials*, **2018**, 47, 7023-7033	1.9	5

63	Solution processed graphene as electron transport layer for bulk heterojunction based devices. *Superlattices and Microstructures*, **2018**, 120, 788-795	2.8	8
62	I-V and impedance characterization of a solution processed perovskite based heterojunction photodetector. *Superlattices and Microstructures*, **2018**, 122, 410-418	2.8	12
61	Ab initio studies of structural, electronic, optical, elastic and thermal properties of CuGaTe2. *Semiconductors*, **2017**, 51, 679-687	0.7	3
60	Investigation of the optical and electrical characteristics of solution-processed poly (3 hexylthiophene) (P3HT): multiwall carbon nanotube (MWCNT) composite-based devices. *Materials Research Express*, **2017**, 4, 085905	1.7	24
59	Investigation of fundamental physical properties of CdSiP2 and its application in solar cell devices by using (ZnX; X = Se, Te) buffer layers. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2016**, 205, 18-27	3.1	3
58	Photoacoustic Spectroscopic Study of Optical Properties of (hbox {Cu}_{2}hbox {GeTe}_{3}) in Temperature Range from 80 K to 300 K. *International Journal of Thermophysics*, **2016**, 37, 1	2.1	1
57	Simulated solar cell device of CuGaSe 2 by using CdS, ZnS and ZnSe buffer layers. *Materials Science in Semiconductor Processing*, **2016**, 42, 288-302	4.3	11
56	Study of Glass Transition Kinetics of Ge25Se75Sbx (x = 12, 15 and 18) Glassy Alloys by Differential Scanning Calorimetery. *Advanced Science Letters*, **2016**, 22, 3863-3866	0.1	1
55	Inter atomic force constants of binary and ternary tetrahedral semiconductors. *Semiconductors*, **2016**, 50, 795-800	0.7	0
54	Structural, electronic, optical, elastic and thermal properties of CdSnP2 with the application in solar cell devices. *Superlattices and Microstructures*, **2015**, 85, 859-871	2.8	10
53	Extant ionic charge theory for bond orbital model based on the tight-binding method: A semi-empirical model applied to wide-bandgap II-VI and III-V semiconductors. *Materials Science in Semiconductor Processing*, **2015**, 29, 2-15	4.3	3
52	First principles studies of structural, electronic, optical, elastic and thermal properties of Ag-chalcopyrites (AgInX2: X=S, Se). *Physica B: Condensed Matter*, **2014**, 438, 97-108	2.8	22
51	Buffer layer selection for CuIn1 GaxSe2based thin film solar cells. *Materials Research Express*, **2014**, 1, 016202	1.7	9
50	Structural, electronic, optical, elastic and thermal properties of ZnXAs2 (X = Si and Ge) chalcopyrite semiconductors. *European Physical Journal B*, **2014**, 87, 1	1.2	7
49	First principles study of the structural, electronic, optical, elastic and thermodynamic properties of CdXAs2 (X=Si, Ge and Sn). *Materials Science in Semiconductor Processing*, **2014**, 27, 79-96	4.3	15
48	Density functional calculation of silicon adatom adsorption on pure and defected graphene. *Philosophical Magazine*, **2014**, 94, 867-875	1.6	3
47	Ab initio studies of structural, elastic and thermal properties of copper indium dichalcogenides (CuInX2: X=S, Se, Te). *Computational Materials Science*, **2014**, 86, 108-117	3.2	12
46	Ab initio studies of structural, electronic, optical, elastic and thermal properties of Ag-chalcopyrites (AgAlX2: X=S, Se). *Materials Science in Semiconductor Processing*, **2014**, 26, 187-198	4.3	7

45	First-principles calculations of the structural, phonon and thermal properties of ZnX (X = S, Se,Te) chalcogenides. *Physica Scripta*, **2014**, 89, 075704	2.6	20
44	Computational study of copper gallium disulphide-based solar cell devices by using CdS and ZnSe buffer layers. *IET Science, Measurement and Technology*, **2014**, 8, 294-303	1.5	1
43	Ab initio studies of structural, electronic, optical, elastic and thermal properties of silver gallium dichalcogenides (AgGaX2: X=S, Se, Te). *Materials Research Bulletin*, **2014**, 53, 218-233	5.1	31
42	A theoretical study of H2S adsorption on graphene doped with B, Al and Ga. *Physica B: Condensed Matter*, **2013**, 427, 12-16	2.8	49
41	Elastic moduli of orthorhombic perovskites. *Solid State Communications*, **2013**, 158, 34-37	1.6	4
40	Bulk modulus and hardness of chalcopyrite structured solids. *Materials Chemistry and Physics*, **2013**, 139, 256-261	4.4	25
39	First-Principles Calculations of the Structural, Electronic, Optical and Mechanical Properties of CdS, CdSe and CdTe. *Advanced Materials Research*, **2013**, 665, 302-306	0.5	1
38	Structural, electronic and thermal properties of ZnSiX2 (X=P, As) studied from first-principles theory **2013**,		2
37	Elastic properties of chalcopyrite structured solids. *Materials Chemistry and Physics*, **2012**, 132, 416-420	4.4	37
36	Elastic moduli and brittleness of diamondlike and zinc blende structured solids. *Materials Chemistry and Physics*, **2012**, 135, 106-111	4.4	4
35	Structural and electronic properties of sulphur-doped boron nitride nanotubes. *Solid State Communications*, **2012**, 152, 802-805	1.6	11
34	Bulk modulus of cubic perovskites. *Journal of Alloys and Compounds*, **2012**, 541, 210-214	5.7	65
33	ELECTRONIC, OPTICAL AND MECHANICAL PROPERTIES OF AIIBVI SEMICONDUCTORS. *International Journal of Modern Physics B*, **2012**, 26, 1250020	1.1	1
32	Dielectric constants of zinc-blende semiconductors. *Physica Scripta*, **2012**, 85, 015705	2.6	2
31	INHERENT PROPERTIES OF TERNARY $(A^{N}B^{2+N}C_{2}^{7-N})$ TETRAHEDRAL SEMICONDUCTORS. *International Journal of Modern Physics B*, **2012**, 26, 1250079	1.1	3
30	Electronic and mechanical properties of ZnX (X = S, Se and Te) An ab initio study **2011**,		1
29	First principles study on the elastic and electronic properties of CdX (X = S, Se and Te) **2011**,		13
28	High frequency and static dielectric constants of zinc blende structured solids. *Solid State Communications*, **2011**, 151, 1945-1948	1.6	2

27	Models for lattice thermal expansion and thermal conductivity for ternary (ANB2+NC27N) tetrahedral semiconductors. *Materials Chemistry and Physics*, **2011**, 127, 74-78	4.4	16
26	Temperature induced band gap shrinkage in Cu2GeSe3: Role of electron–phonon interaction. *Physica B: Condensed Matter*, **2011**, 406, 2847-2850	2.8	13
25	Electronic polarizability of compound semiconductors. *Journal of Computational Methods in Sciences and Engineering*, **2010**, 10, 615-620	0.3	1
24	EVALUATING OPTICAL PARAMETERS FROM ELECTRONIC STRUCTURE AND CRYSTAL STRUCTURE FOR BINARY (ANB8-N) AND TERNARY ${{rm A}^N {rm B}^{2 + N}{rm C}^{7 - N}_2)$ TETRAHEDRAL SEMICONDUCTORS. *Modern Physics Letters B*, **2010**, 24, 2511-2524	1.6	14
23	Cohesive energy of zincblende (AIIIBV and AIIBVI) structured solids **2010**, 74, 851-855		8
22	Thermal and Optical Properties of Zn1−x Mn x Te Diluted Magnetic Semiconductor Studied by Photoacoustic Spectroscopic Method. *International Journal of Thermophysics*, **2010**, 31, 620-629	2.1	6
21	Inherent properties of binary tetrahedral semiconductors. *Physica B: Condensed Matter*, **2010**, 405, 1737-1739	2.8	3
20	An empirical relationship between ionic charge and the electronic polarizability of binary and ternary tetrahedral semiconductors. *Physica Scripta*, **2009**, 79, 045703	2.6	5
19	Inherent properties of complex structured solids. *Physica Scripta*, **2009**, 79, 015302	2.6	14
18	Correlation between ionic charge and the optical properties of zinc blende and complex crystal structured solids. *Physica Status Solidi (B): Basic Research*, **2009**, 246, 192-199	1.3	25
17	An empirical model for bulk modulus and cohesive energy of rocksalt-, zincblende- and chalcopyrite-structured solids. *Physica Status Solidi (B): Basic Research*, **2009**, 246, 345-353	1.3	46
16	Thermal property of binary tetrahedral semiconductors. *Physica B: Condensed Matter*, **2009**, 404, 4051-4053	2.8	9
15	Temperature dependence of elastic constants for ionic solids. *Physica B: Condensed Matter*, **2009**, 404, 4106-4110	2.8	2
14	Bond-stretching force constant of AIBIIIC2V I and AIIBIVC2V chalcopyrite semiconductors. *Solid State Communications*, **2009**, 149, 1236-1239	1.6	37
13	Lattice constant of orthorhomic perovskite solids. *Journal of Alloys and Compounds*, **2009**, 480, 650-657	5.7	14
12	An empirical model for dielectric constant and electronic polarizability of binary (ANB8N) and ternary (ANB2+NC27N) tetrahedral semiconductors. *Journal of Alloys and Compounds*, **2009**, 486, 795-800	5.7	19
11	Thermal properties of chalcopyrite semiconductors. *Philosophical Magazine*, **2009**, 89, 183-193	1.6	27
10	Lattice constant of cubic perovskites. *Journal of Alloys and Compounds*, **2009**, 485, 514-518	5.7	120

9	Lattice energy of zinc blende (AIIIBV and AIIBVI) solids. *Physica Status Solidi (B): Basic Research*, **2008**, 245, 678-680	1.3	12
8	Correlation between ionic charge and the lattice constant of cubic perovskite solids. *Physica Status Solidi (B): Basic Research*, **2008**, 245, 1520-1526	1.3	49
7	Bond-stretching and bond-bending force constant of binary tetrahedral (AIIIBV and AIIBVI) semiconductors. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2008**, 372, 7196-7198	2.3	20
6	Correlation between ionic charge and the mechanical properties of complex structured solids. *Journal of Physics Condensed Matter*, **2007**, 19, 026213	1.8	15
5	Dielectric constants ofAIBIIIC2VIandAIIBIVC2Vchalcopyrite semiconductors. *Physica Scripta*, **2007**, 76, 22-24	2.6	31
4	Correlation between ionic charge and ground-state properties in rocksalt and zinc blende structured solids. *Journal of Physics Condensed Matter*, **2006**, 18, 8603-12	1.8	16
3	Mechanical and optical properties of AIIBIVC2V and AIBIIIC2VI semiconductors. *Physica Status Solidi (B): Basic Research*, **2006**, 243, 2858-2863	1.3	14
2	Electronic and optical properties of zinc blende and complex crystal structured solids. *Physica Status Solidi (B): Basic Research*, **2006**, 243, 4025-4034	1.3	20
1	Fundamental physical properties of non-toxic tin-based formamidinium FASnX3 (X = I, Br, Cl) hybrid halide perovskites: Future opportunities in photovoltaic applications. *Energy Technology*,	3.5	4