Bin Amin

List of Publications by Year
in descending order

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79 papers	3,134 citations	186209 28 h-index	161767 54 g-index
80 all docs	80 docs citations	80 times ranked	2341 citing authors

#	Article	IF	Citations
1	Strain engineering of WS₂, WSe₂, and WTe₂. RSC Advances, 2014, 4, 34561.	1.7	279
2	Heterostructures of transition metal dichalcogenides. Physical Review B, 2015, 92, .	1.1	190
3	Layered graphene/GaS van der Waals heterostructure: Controlling the electronic properties and Schottky barrier by vertical strain. Applied Physics Letters, 2018, 113, .	1.5	171
4	Ab initio study of the bandgap engineering of Al1âˆ’xGaxN for optoelectronic applications. Journal of Applied Physics, 2011, 109, .	1.1	167
5	Rashba spin splitting and photocatalytic properties of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>GeC</mml:mi><mml:mo>â˜’</mml:mo><mml:mi>M</mml:mi><mml:mi>(<mml:math) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 577 Td (xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mr	1.1	144
6	Optoelectronic and solar cell applications of Janus monolayers and their van der Waals heterostructures. Physical Chemistry Chemical Physics, 2019, 21, 18612-18621.	1.3	141
7	Graphene/WSeTe van der Waals heterostructure: Controllable electronic properties and Schottky barrier via interlayer coupling and electric field. Applied Surface Science, 2020, 507, 145036.	3.1	133
8	Investigation of structural and optoelectronic properties of BaThO3. Optical Materials, 2011, 33, 553-557.	1.7	124
9	Interfacial characteristics, Schottky contact, and optical performance of a <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>graphene</mml:mi><mml:mo>/</mml:mo><mml:msub><mml:mrow mathvariant="normal">S</mml:mi><mml:mi>Se</mml:mi></mml:math> van der Waals heterostructure: Strain engineering and electric field tunability. Physical Review B, 2020, 102, .	1.1	100
10	Electronic structure, optical and photocatalytic performance of SiCâ€“MX₂ (M = Mo, W) Tj ETQq0 0 0 rgBT /Overlock 10 T 24168-24175.	1.3	85
11	Materials properties of out-of-plane heterostructures of MoS2-WSe2 and WS2-MoSe2. Applied Physics Letters, 2016, 108, .	1.5	79
12	Structural and electronic properties of a van der Waals heterostructure based on silicene and gallium selenide: effect of strain and electric field. Physical Chemistry Chemical Physics, 2018, 20, 27856-27864.	1.3	77
13	Interlayer coupling and electric field controllable Schottky barriers and contact types in graphene/<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>PbI</mml:mi><mml:mn>2</mml:mn></mml:msub></m heterostructures. Physical Review B, 2020, 101, .	1.1	76
14	Intriguing electronic structures and optical properties of two-dimensional van der Waals heterostructures of Zr₂CT₂ (T = O, F) with MoSe₂ and WSe₂. Journal of Materials Chemistry C, 2018, 6, 2830-2839.	2.7	73
15	Strain engineering of electronic structures and photocatalytic responses of MXenes functionalized by oxygen. Physical Chemistry Chemical Physics, 2017, 19, 14738-14744.	1.3	60
16	Van der Waals heterostructures of P, BSe, and SiC monolayers. Journal of Applied Physics, 2019, 125, .	1.1	57
17	First principles study of the electronic properties and Schottky barrier in vertically stacked graphene on the Janus MoSeS under electric field. Computational Materials Science, 2018, 153, 438-444.	1.4	56
18	Electronic structure of cubic perovskite SnTaO3. Intermetallics, 2012, 31, 287-291.	1.8	55

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19	Electronic properties and enhanced photocatalytic performance of van der Waals heterostructures of ZnO and Janus transition metal dichalcogenides. Physical Chemistry Chemical Physics, 2020, 22, 10351-10359.	1.3	53
20	Van der Waals graphene/g-GaSe heterostructure: Tuning the electronic properties and Schottky barrier by interlayer coupling, biaxial strain, and electric gating. Journal of Alloys and Compounds, 2018, 750, 765-773.	2.8	51
21	Cs₂NaGaBr₆: a new lead-free and direct band gap halide double perovskite. RSC Advances, 2020, 10, 17444-17451.	1.7	49
22	Tailoring the structural and electronic properties of an SnSe₂/MoS₂ van der Waals heterostructure with an electric field and the insertion of a graphene sheet. Physical Chemistry Chemical Physics, 2019, 21, 22140-22148.	1.3	48
23	Cr-Doped IIIâ€“V Nitrides: Potential Candidates for Spintronics. Journal of Electronic Materials, 2011, 40, 1428-1436.	1.0	43
24	Band alignment and optical features in Janus-MoSeTe/X(OH)₂ (X = Ca, Mg) van der Waals heterostructures. Physical Chemistry Chemical Physics, 2019, 21, 25849-25858.	1.3	40
25	Vertical strain and electric field tunable electronic properties of type-II band alignment C2N/InSe van der Waals heterostructure. Chemical Physics Letters, 2019, 716, 155-161.	1.2	38
26	van der Waals heterostructures based on MSSe (M = Mo, W) and graphene-like GaN: enhanced optoelectronic and photocatalytic properties for water splitting. Physical Chemistry Chemical Physics, 2020, 22, 20704-20711.	1.3	37
27	Theoretical investigation of electronic structure and thermoelectric properties of MX2 (M=Zr, Hf;) Tj ETQq1 1 0.784314 rgBT /Overlock	1.9	36
28	Theoretical exploration of the potential applications of Sc-based MXenes. Physical Chemistry Chemical Physics, 2017, 19, 32253-32261.	1.3	34
29	Effects of different surface functionalization on the electronic properties and contact types of graphene/functionalized-GeC van der Waals heterostructures. Physical Chemistry Chemical Physics, 2020, 22, 7952-7961.	1.3	29
30	Influence of strain on specific features of MoX2 (X = S, Se, Te) monolayers. Physica B: Condensed Matter, 2018, 545, 113-118.	1.3	28
31	Electronic structure, optoelectronic properties and enhanced photocatalytic response of GaNâ€“GeC van der Waals heterostructures: a first principles study. RSC Advances, 2020, 10, 24127-24133.	1.7	28
32	Electric field tunable electronic properties of P-ZnO and SiC-ZnO van der Waals heterostructures. Computational Materials Science, 2019, 164, 166-170.	1.4	27
33	Major enhancement of the thermoelectric performance in Pr/Nb-doped SrTiO3 under strain. Applied Physics Letters, 2013, 103, .	1.5	25
34	Type-I band alignment of BXâ€“ZnO (X = As, P) van der Waals heterostructures as high-efficiency water splitting photocatalysts: a first-principles study. RSC Advances, 2020, 10, 44545-44550.	1.7	25
35	Van der Waal heterostructure based on BY(Y As, P) and MX<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e981" altimg="si31.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:math>(M Mo, W; X S, Se) monolayers. Applied Surface Science, 2021, 568, 150846.	3.1	24
36	Van der Waals heterostructures of SiC and Janus MSSe (M = Mo, W) monolayers: a first principles study. RSC Advances, 2020, 10, 25801-25807.	1.7	22

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37	Strain and electric field tunable electronic properties of type-II band alignment in van der Waals GaSe/MoSe2 heterostructure. Chemical Physics, 2019, 521, 92-99.	0.9	21
38	Effect of strain on structural and electronic properties, and thermoelectric response of MXY (M=Zr,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 2021, 299, 122189.	1.4	20
39	Molecular distortion and charge transfer effects in ZnPc/Cu(111). Scientific Reports, 2013, 3, .	1.6	19
40	A first-principles study of electronic structure and photocatalytic performance of GaNâ€“MX₂ (M = Mo, W; X= S, Se) van der Waals heterostructures. RSC Advances, 2020, 10, 24683-24690.	1.7	19
41	Electronic and optoelectronic properties of van der Waals heterostructure based on graphene-like GaN, blue phosphorene, SiC, and ZnO: A first principles study. Journal of Applied Physics, 2020, 127, .	1.1	19
42	Electronic and photocatalytic properties of two-dimensional boron phosphide/SiC van der Waals heterostructure with direct type-II band alignment: a first principles study. RSC Advances, 2020, 10, 32027-32033.	1.7	18
43	Theoretical investigation of halfâ€metallicity in Co/Ni substituted AlN. International Journal of Quantum Chemistry, 2012, 112, 882-888.	1.0	15
44	Effects of electric field and strain engineering on the electronic properties, band alignment and enhanced optical properties of ZnO/Janus ZrSSe heterostructures. RSC Advances, 2020, 10, 9824-9832.	1.7	15
45	Strain engineering of Janus ZrSSe and HfSSe monolayers and ZrSSe/HfSSe van der Waals heterostructure. Chemical Physics Letters, 2021, 776, 138689.	1.2	15
46	Van der Waals heterostructures of blue phosphorene and scandium-based MXenes monolayers. Journal of Applied Physics, 2019, 126, .	1.1	14
47	First-principles study of the electronic structures and optical and photocatalytic performances of van der Waals heterostructures of SiS, P and SiC monolayers. RSC Advances, 2021, 11, 14263-14268.	1.7	14
48	Intriguing electronic and optical properties of M2CX2 (Mâ€¯=â€¯Mo, W; Xâ€¯=â€¯O, F) MXenes and their van der Waals heterostructures. Chemical Physics Letters, 2019, 731, 136614.	1.2	13
49	Tri-layered van der Waals heterostructures based on graphene, gallium selenide and molybdenum selenide. Journal of Applied Physics, 2019, 125, .	1.1	13
50	Strain engineering and electric field tunable electronic properties of Ti₂CO₂ MXene monolayer. Materials Research Express, 2019, 6, 065910.	0.8	12
51	Computational insights into structural, electronic and optical characteristics of GeC/C₂N van der Waals heterostructures: effects of strain engineering and electric field. RSC Advances, 2020, 10, 2967-2974.	1.7	12
52	Understanding the electronic properties, contact types and optical performances in graphene/InN heterostructure: Role of electric gating. Diamond and Related Materials, 2020, 106, 107851.	1.8	12
53	Electronic structures, and optical and photocatalytic properties of the BPâ€“BSe van der Waals heterostructures. New Journal of Chemistry, 2020, 44, 14964-14969.	1.4	11
54	First principles study of electronic and optical properties and photocatalytic performance of GaNâ€“SiS van der Waals heterostructure. RSC Advances, 2021, 11, 32996-33003.	1.7	11

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55	Structural, elastic, thermal and electronic properties of M2X (MÂ=ÂSr, Ba and XÂ=ÂSi, Ge, Sn) compounds in anti-fluorite structure: first principle calculations. Indian Journal of Physics, 2015, 89, 369-375.	0.9	10
56	Robust halfâ€metallicity of AlCoN and AlNiN. International Journal of Quantum Chemistry, 2012, 112, 2668-2674.	1.0	9
57	ELECTRONIC BAND STRUCTURE, OPTICAL, THERMAL AND BONDING PROPERTIES OF XMg₂O₄(X = Si, Ge) SPINEL COMPOUNDS. International Journal of Modern Physics B, 2013, 27, 1350082.	1.0	9
58	Thermoelectric properties of the misfit cobaltate Ca3Co4O9. Applied Physics Letters, 2017, 110, .	1.5	9
59	Two-dimensional blue phosphoreneâ€“BAs vdW heterostructure with optical and photocatalytic properties: a first-principles study. RSC Advances, 2021, 11, 13025-13029.	1.7	9
60	STRUCTURAL, ELASTIC, ELECTRONIC, CHEMICAL BONDING AND OPTICAL PROPERTIES OF M₂Se (M = Li, Na,) Tj ETQq0 0 0 rgBT /Overlock 10 Physics B, 2013, 27, 1350170.	1.0	8
61	First-principles study of metal-semiconductor contact between MX2 (Mâ€¯=â€¯Nb, Pt; Xâ€¯=â€¯S, Se) monolayers. Physics Letters, Section A: General, Atomic and Solid State Physics, 2019, 383, 125867.	0.9	8
62	Strain engineering of the electro-optical and photocatalytic properties of single-layered Janus MoSSe: First principles calculations. Optik, 2020, 224, 165503.	1.4	8
63	Strain effect on the electronic and photocatalytic properties of GaN-MSSe (M=Mo, W). Journal of Solid State Chemistry, 2022, 306, 122798.	1.4	8
64	Optoelectronic and photocatalytic applications of hBPâ€“XMY (M = Mo, W; (X â‰ Y) = S, Se, Te) van der Waals heterostructures. Physical Chemistry Chemical Physics, 2020, 22, 23028-23037.	1.3	7
65	Electronic structure and optical performance of PbI2/SnSe2 heterostructure. Chemical Physics, 2020, 533, 110736.	0.9	7
66	Stacking effects in van der Waals heterostructures of blueP and Janus XYO (X = Ti, Zr, Hf: Y = S, Se) monolayers. RSC Advances, 2021, 11, 12189-12199.	1.7	7
67	Van der Waals heterostructure of Janus transition metal dichalcogenides monolayers (WSSe-WX2) Tj ETQq1 1 0.784314 rgBT /Overlock	0.9	7
68	Intriguing electronic, optical and photocatalytic performance of BSe, M2CO2 monolayers and BSeâ€“M2CO2 (M = Ti, Zr, Hf) van der Waals heterostructures. RSC Advances, 2021, 12, 42-52.	1.7	7
69	Intriguing electronic structure and photocatalytic performance of bluePâ€“SMSe and bluePâ€“SeMS (M =) Tj ETQq1 1 0.784314 rgBT /O	1.7	6
70	Effects of La and Ce doping on electronic structure and optical properties of janus MoSSe monolayer. Superlattices and Microstructures, 2021, 151, 106841.	1.4	6
71	Strain and electric field engineering of band alignment in InSe/Ca(OH)2 heterostructure. Chemical Physics Letters, 2019, 732, 136649.	1.2	5
72	Realization of noble heterobilayers with enhanced optoelectronic properties. Applied Surface Science, 2020, 505, 144530.	3.1	4

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73	Electronic and thermoelectric properties of group IVâ€“VI van der Waals heterostructures. Journal of Computational Electronics, 2022, 21, 725-732.	1.3	3
74	Density functional theory-based quantum-computational analysis on the strain-assisted phononic, electronic, photocatalytic properties and thermoelectric performance of monolayer Janus SnSSe. Applied Physics A: Materials Science and Processing, 2022, 128, .	1.1	3
75	Van der Waal heterostructure of hBAs and XMY (MÂ=ÂMo, W; (X<mml:math) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 672 Td (x	0.9	2
76	First principles study of optoelectronic and photocatalytic performance of novel transition metal dipnictide XP₂ (X = Ti, Zr, Hf) monolayers. RSC Advances, 2022, 12, 11202-11206.	1.7	2
77	In-situ formation of Are-MXY(M = Mo, W; (X â‰ Y) = S, Se, Te) van der Waals heterostructure. Journal of Solid State Chemistry, 2022, 313, 123284.	1.4	2
78	Intriguing interfacial characteristics of the CS contact with MX₂ (M = Mo, W; X = S, Se,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.7	1
79	MSSe-N2CO2 (MÂ=ÂMo, W and NÂ=ÂZr, Hf) van der Waals heterostructures; A first principles study. Chemical Physics, 2022, 561, 111607.	0.9	1