Anderson Janotti

List of Publications by Year in Descending Order

127 papers	12,704 citations	42 h-index	112 g-index
135 ext. papers	14,082 ext. citations	4.8 avg, IF	6.97 L-index

#	Paper	IF	Citations
127	Structural Phase Transitions between Layered Indium Selenide for Integrated Photonic Memory.. *Advanced Materials*, **2022**, e2108261	24	1
126	Surprising stability of polar (001) surfaces of the Mott insulator GdTiO3. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2021**, 39, 063220	2.9	1
125	Approach to achieving a p-type transparent conducting oxide: Doping of bismuth-alloyed Ga2O3 with a strongly correlated band edge state. *Physical Review B*, **2021**, 103,	3.3	7
124	Molecular Mechanism of Thermal Dry Etching of Iron in a Two-Step Atomic Layer Etching Process: Chlorination Followed by Exposure to Acetylacetone. *Journal of Physical Chemistry C*, **2021**, 125, 7142-7154	3.8	6
123	Electronic correlations in the semiconducting half-Heusler compound FeVSb. *Physical Review B*, **2021**, 103,	3.3	2
122	Light and microwave driven spin pumping across FeGaB/BiSb interface. *Physical Review Materials*, **2021**, 5,	3.2	3
121	Localized Strain Measurement in Molecular Beam Epitaxially Grown Chalcogenide Thin Films by Micro-Raman Spectroscopy. *ACS Omega*, **2020**, 5, 8090-8096	3.9	5
120	Assessing the roles of Cu- and Ag-deficient layers in chalcopyrite-based solar cells through first principles calculations. *Journal of Applied Physics*, **2020**, 127, 065303	2.5	13
119	Hybrid functional calculations of electronic structure and carrier densities in rare-earth monopnictides. *Physical Review B*, **2020**, 101,	3.3	9
118	Electronic structure and small-hole polarons in YTiO3. *Physical Review Materials*, **2020**, 4,	3.2	2
117	Quantum anomalous Hall effect in two-dimensional magnetic insulator heterojunctions. *Npj Computational Materials*, **2020**, 6,	10.9	11
116	Self-Catalyzed Sensitization of CuO Nanowires via a Solvent-free Click Reaction. *Langmuir*, **2020**, 36, 14539-14545	4	6
115	Trivial to nontrivial topology transition in rare-earth pnictides with epitaxial strain. *Physical Review B*, **2020**, 102,	3.3	4
114	Insulator/Metal Transition in the Nd2CoFeO6 Disordered Double Perovskite. *Journal of Physical Chemistry C*, **2020**, 124, 22733-22742	3.8	2
113	Cause of Extremely Long-Lasting Room-Temperature Persistent Photoconductivity in SrTiO_{3} and Related Materials. *Physical Review Letters*, **2020**, 125, 126404	7.4	4
112	Velocity saturation in La-doped BaSnO3 thin films. *Applied Physics Letters*, **2019**, 115, 092102	3.4	7
111	Carrier-Density-Induced Ferromagnetism in EuTiO_{3} Bulk and Heterostructures. *Physical Review Letters*, **2019**, 123, 127201	7.4	8

110	Weak antilocalization in quasi-two-dimensional electronic states of epitaxial LuSb thin films. *Physical Review B*, **2019**, 99,	3.3	7
109	Strong band gap reduction in highly mismatched alloy InAlBiAs grown by molecular beam epitaxy. *Journal of Applied Physics*, **2019**, 126, 095704	2.5	2
108	Effects of Doping on the Crystal Structure of BiVO4. *Journal of Physical Chemistry C*, **2019**, 123, 26752-26757	3.8	12
107	Enabling visible-light absorption and p-type doping in In2O3 by adding Bi. *Physical Review Materials*, **2019**, 3,	3.2	2
106	Formation of two-dimensional electron and hole gases at the interface of half-Heusler semiconductors. *Physical Review Materials*, **2019**, 3,	3.2	3
105	Role of point defects in the electrical and optical properties of In2O3. *Physical Review Materials*, **2019**, 3,	3.2	21
104	Band gap evolution in Ruddlesden-Popper phases. *Physical Review Materials*, **2019**, 3,	3.2	15
103	First-Principles Calculations of Point Defects for Quantum Technologies. *Annual Review of Materials Research*, **2018**, 48, 1-26	12.8	58
102	Interfacial Cation-Defect Charge Dipoles in Stacked TiO/AlO Gate Dielectrics. *ACS Applied Materials & Interfaces*, **2018**, 10, 5140-5146	9.5	8
101	Band Gap and Band Offset of Ga2O3 and (AlxGa1⊠)2O3 Alloys. *Physical Review Applied*, **2018**, 10,	4.3	75
100	In situ XPS study on atomic layer etching of Fe thin film using Cl2 and acetylacetone. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2018**, 36, 051401	2.9	10
99	Electronic Structure Characterization of Hydrogen Terminated n-type Silicon Passivated by Benzoquinone-Methanol Solutions. *Coatings*, **2018**, 8, 108	2.9	
98	A simple electron counting model for half-Heusler surfaces. *Science Advances*, **2018**, 4, eaar5832	14.3	15
97	First-principles calculations of optical transitions at native defects and impurities in ZnO **2018**,		1
96	Impact of point defects on electrochromism in WO3 **2018**,		1
95	Topological phase transition in LaAs under pressure. *Physical Review B*, **2018**, 98,	3.3	16
94	Large disparity between optical and fundamental band gaps in layered In2Se3. *Physical Review B*, **2018**, 98,	3.3	26
93	Self-trapped holes in BaTiO3. *Journal of Applied Physics*, **2018**, 124, 085703	2.5	10

92	Carrier density control of magnetism and Berry phases in doped EuTiO3. *APL Materials*, **2018**, 6, 056105	5.7	18
91	Thermal transport across metal silicide-silicon interfaces: An experimental comparison between epitaxial and nonepitaxial interfaces. *Physical Review B*, **2017**, 95,	3.3	20
90	Phase transformations upon doping in WO. *Journal of Chemical Physics*, **2017**, 146, 214504	3.9	18
89	Hybrid-Functional Calculations of the Copper Impurity in Silicon. *Physical Review Applied*, **2017**, 8,	4.3	9
88	Disentangling the role of small polarons and oxygen vacancies in CeO2. *Physical Review B*, **2017**, 95,	3.3	47
87	Band alignment and p-type doping of ZnSnN2. *Physical Review B*, **2017**, 95,	3.3	28
86	Energetics and optical properties of nitrogen impurities in SrTiO3 from hybrid density-functional calculations. *Physical Review B*, **2017**, 95,	3.3	8
85	First-principles analysis of electron transport in BaSnO3. *Physical Review B*, **2017**, 95,	3.3	59
84	Strong effect of electron-phonon interaction on the lattice thermal conductivity in 3C-SiC. *Physical Review Materials*, **2017**, 1,	3.2	15
83	Effects of La 5d and 4f states on the electronic and optical properties of LaAlO3. *Physical Review B*, **2016**, 94,	3.3	7
82	Electron and chemical reservoir corrections for point-defect formation energies. *Physical Review B*, **2016**, 93,	3.3	42
81	Correct Implementation of Polarization Constants in Wurtzite Materials and Impact on III-Nitrides. *Physical Review X*, **2016**, 6,	9.1	49
80	Substrate-supported large-band-gap quantum spin Hall insulator based on III-V bismuth layers. *Physical Review B*, **2016**, 94,	3.3	1
79	Role of oxygen vacancies in crystalline WO3. *Journal of Materials Chemistry C*, **2016**, 4, 6641-6648	7.1	65
78	Transport properties of KTaO3 from first-principles. *Journal of Physics Condensed Matter*, **2016**, 28, 065502	2.3	6
77	Identification of Microscopic Hole-Trapping Mechanisms in Nitride Semiconductors. *IEEE Electron Device Letters*, **2016**, 37, 154-156	4.4	6
76	Controlling the Electronic Structures of Perovskite Oxynitrides and their Solid Solutions for Photocatalysis. *ChemSusChem*, **2016**, 9, 1027-31	8.3	11
75	Small polaron-related recombination in BaxSr1□TiO3 thin films by cathodoluminescence spectroscopy. *Applied Physics Letters*, **2016**, 108, 102901	3.4	3

74	BaSnO3 as a channel material in perovskite oxide heterostructures. *Applied Physics Letters*, **2016**, 108, 083501	3.4	61
73	Metal versus insulator behavior in ultrathin SrTiO3-based heterostructures. *Physical Review B*, **2016**, 94,	3.3	2
72	Carbon-induced trapping levels in oxide dielectrics. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2015**, 33, 01A120	2.9	10
71	First-principles theory of acceptors in nitride semiconductors. *Physica Status Solidi (B): Basic Research*, **2015**, 252, 900-908	1.3	90
70	(InxGa1⊠)2O3 alloys for transparent electronics. *Physical Review B*, **2015**, 92,	3.3	68
69	Small polarons and point defects in barium cerate. *Physical Review B*, **2015**, 92,	3.3	26
68	Effects of biaxial stress and layer thickness on octahedral tilts in LaNiO3. *Applied Physics Letters*, **2015**, 107, 261901	3.4	3
67	Defects in Germanium **2015**, 1-23		2
66	Sulfur doping of AlN and AlGaN for improved n-type conductivity. *Physica Status Solidi - Rapid Research Letters*, **2015**, 9, 462-465	2.5	11
65	Tuning bad metal and non-Fermi liquid behavior in a Mott material: Rare-earth nickelate thin films. *Science Advances*, **2015**, 1, e1500797	14.3	76
64	Hydrogen passivation of impurities in Al(2)O(3). *ACS Applied Materials & Interfaces*, **2014**, 6, 4149-53	9.5	9
63	Interband and polaronic excitations in YTiO3 from first principles. *Physical Review B*, **2014**, 90,	3.3	18
62	Direct view at excess electrons in TiO2 rutile and anatase. *Physical Review Letters*, **2014**, 113, 086402	7.4	300
61	Vacancies and small polarons in SrTiO3. *Physical Review B*, **2014**, 90,	3.3	156
60	Effects of strain on the band structure of group-III nitrides. *Physical Review B*, **2014**, 90,	3.3	73
59	Band alignments and polarization properties of BN polymorphs. *Applied Physics Express*, **2014**, 7, 031001	2.4	39
58	Hydrogen bonds in Al2O3 as dissipative two-level systems in superconducting qubits. *Scientific Reports*, **2014**, 4, 7590	4.9	33
57	Origins of optical absorption and emission lines in AlN. *Applied Physics Letters*, **2014**, 105, 111104	3.4	94

56	First-principles study of vacancy-assisted impurity diffusion in ZnO. *APL Materials*, **2014**, 2, 096101	5.7	30
55	The role of native defects in the transport of charge and mass and the decomposition of Li4BN3H10. *Physical Chemistry Chemical Physics*, **2014**, 16, 25314-20	3.6	6
54	First-principles study of the mobility of SrTiO3. *Physical Review B*, **2014**, 90,	3.3	40
53	First-principles calculations for point defects in solids. *Reviews of Modern Physics*, **2014**, 86, 253-305	40.5	1431
52	Theory and Modeling of Oxide Semiconductors. *Semiconductors and Semimetals*, **2013**, 88, 1-37	0.6	5
51	Impact of native defects in high-k dielectric oxides on GaN/oxide metal□xide□emiconductor devices. *Physica Status Solidi (B): Basic Research*, **2013**, 250, 787-791	1.3	21
50	Native point defects in LaAlO3: A hybrid functional study. *Physical Review B*, **2013**, 88,	3.3	27
49	Native point defects and dangling bonds in □Al2O3. *Journal of Applied Physics*, **2013**, 113, 044501	2.5	165
48	Conductivity and transparency of TiO2from first principles **2013**,		2
47	Structural origins of the properties of rare earth nickelate superlattices. *Physical Review B*, **2013**, 87,	3.3	59
46	Effect of transition-metal additives on hydrogen desorption kinetics of MgH2. *Applied Physics Letters*, **2013**, 102, 033902	3.4	29
45	Impact of carbon and nitrogen impurities in high-□ dielectrics on metal-oxide-semiconductor devices. *Applied Physics Letters*, **2013**, 102, 142902	3.4	84
44	Impact of Group-II Acceptors on the Electrical and Optical Properties of GaN. *Japanese Journal of Applied Physics*, **2013**, 52, 08JJ04	1.4	35
43	Quantum computing with defects. *MRS Bulletin*, **2013**, 38, 802-807	3.2	32
42	Role of nitrogen vacancies in the luminescence of Mg-doped GaN. *Applied Physics Letters*, **2012**, 100, 142110	3.4	107
41	Decomposition mechanism and the effects of metal additives on the kinetics of lithium alanate. *Physical Chemistry Chemical Physics*, **2012**, 14, 2840-8	3.6	17
40	Effects of doping on the lattice parameter of SrTiO3. *Applied Physics Letters*, **2012**, 100, 262104	3.4	90
39	Dehydrogenation of AlH3 via the Vacancy Clustering Mechanism. *Journal of Physical Chemistry C*, **2012**, 116, 12995-13002	3.8	3

38	A first-principles study of the effect of Ta on the superlattice intrinsic stacking fault energy of L12-Co3(Al,W). *Intermetallics*, **2012**, 28, 138-143	3.5	68
37	Alloying Effects in the ⍰ Phase of Co-Based Superalloys **2012**, 683-693		5
36	Mechanisms for the decomposition and dehydrogenation of Li amide/imide. *Physical Review B*, **2012**, 85,	3.3	24
35	First-principles optical spectra for F centers in MgO. *Physical Review Letters*, **2012**, 108, 126404	7.4	131
34	Shallow versus deep nature of Mg acceptors in nitride semiconductors. *Physical Review Letters*, **2012**, 108, 156403	7.4	207
33	Electrically active Er doping in InAs, In0.53Ga0.47As, and GaAs. *Applied Physics Letters*, **2012**, 101, 232103	3.4	2
32	Electrostatic carrier doping of GdTiO3/SrTiO3 interfaces. *Applied Physics Letters*, **2011**, 99, 232116	3.4	195
31	Stability and mobility of native point defects in AlH3. *Journal of Alloys and Compounds*, **2011**, 509, S658-S661	2.6	6
30	Native Point Defects and Doping in ZnO **2011**, 113-134		3
29	Vacancy defects in indium oxide: An ab-initio study. *Current Applied Physics*, **2011**, 11, S296-S300	2.6	48
28	Advances in electronic structure methods for defects and impurities in solids. *Physica Status Solidi (B): Basic Research*, **2011**, 248, 19-27	1.3	53
27	LDA + U and hybrid functional calculations for defects in ZnO, SnO2, and TiO2. *Physica Status Solidi (B): Basic Research*, **2011**, 248, 799-804	1.3	100
26	The Particle-Size Dependence of the Activation Energy for Decomposition of Lithium Amide. *Angewandte Chemie*, **2011**, 123, 10352-10355	3.6	7
25	The particle-size dependence of the activation energy for decomposition of lithium amide. *Angewandte Chemie - International Edition*, **2011**, 50, 10170-3	16.4	18
24	LDA + U and Hybrid Functional Calculations for Defects in ZnO, SnO2, and TiO2 **2011**, 155-164		1
23	Advances in Electronic Structure Methods for Defects and Impurities in Solids **2011**, 1-16		3
22	Point-defect-mediated dehydrogenation of AlH3. *Applied Physics Letters*, **2010**, 97, 201902	3.4	8
21	Hydrogen in oxides and nitrides: unexpected physics and impact on devices. *IOP Conference Series: Materials Science and Engineering*, **2010**, 15, 012001	0.4	3

20	Alternative sources of p-type conduction in acceptor-doped ZnO. *Applied Physics Letters*, **2010**, 97, 072112	3.4	10
19	First-principles study of the formation and migration of native defects in NaAlH4. *Physical Review B*, **2009**, 80,	3.3	50
18	Formation and migration of charged native point defects in MgH2: First-principles calculations. *Physical Review B*, **2009**, 80,	3.3	42
17	A pathway to p-type wide-band-gap semiconductors. *Applied Physics Letters*, **2009**, 95, 172109	3.4	31
16	Defect formation energies without the band-gap problem: combining density-functional theory and the GW approach for the silicon self-interstitial. *Physical Review Letters*, **2009**, 102, 026402	7.4	196
15	Hydrogen doping in indium oxide: An ab initio study. *Physical Review B*, **2009**, 80,	3.3	148
14	Interactions between hydrogen impurities and vacancies in Mg and Al: A comparative analysis based on density functional theory. *Physical Review B*, **2009**, 80,	3.3	86
13	Fundamentals of zinc oxide as a semiconductor. *Reports on Progress in Physics*, **2009**, 72, 126501	14.4	2712
12	Sources of electrical conductivity in SnO2. *Physical Review Letters*, **2008**, 101, 055502	7.4	309
11	Sources of unintentional conductivity in InN. *Applied Physics Letters*, **2008**, 92, 032104	3.4	80
10	Carbon-nitrogen molecules in GaAs and GaP. *Physical Review B*, **2008**, 77,	3.3	8
9	Optimizing optical absorption of TiO2 by alloying with TiS2. *Applied Physics Letters*, **2008**, 92, 041104	3.4	20
8	Absolute deformation potentials and band alignment of wurtzite ZnO, MgO, and CdO. *Physical Review B*, **2007**, 75,	3.3	121
7	Hydrogen multicentre bonds. *Nature Materials*, **2007**, 6, 44-7	27	600
6	Native point defects in ZnO. *Physical Review B*, **2007**, 76,	3.3	1820
5	Self-consistent band-gap corrections in density functional theory using modified pseudopotentials. *Physical Review B*, **2007**, 75,	3.3	60
4	New insights into the role of native point defects in ZnO. *Journal of Crystal Growth*, **2006**, 287, 58-65	1.6	290
3	Effects of cation d states on the structural and electronic properties of III-nitride and II-oxide wide-band-gap semiconductors. *Physical Review B*, **2006**, 74,	3.3	301

2	Oxygen vacancies in ZnO. *Applied Physics Letters*, **2005**, 87, 122102	3.4	887
1	Electronic Properties of the Weyl Semimetals Co 2 MnX (X=Si, Ge, Sn). *Physica Status Solidi - Rapid Research Letters*,2100652	2.5	