Gabriel Bester

List of Publications by Year
in descending order

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128	4,808	94433	102487
papers	citations	37 h-index	66 g-index

128	128	128	3887
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Excitons in ZnO Quantum Dots: The Role of Dielectric Confinement. Journal of Physical Chemistry C, 2022, 126, 2833-2838.	3.1	9
2	Intraband dynamics of mid-infrared HgTe quantum dots. Nanoscale, 2022, 14, 4123-4130.	5.6	6
3	Role of Magnetic Coupling in Photoluminescence Kinetics of Mn²⁺-Doped ZnS Nanoplatelets. ACS Applied Materials & Interfaces, 2022, 14, 18806-18815.	8.0	8
4	Exchange Spin Coupling in Optically Excited States. Journal of Chemical Theory and Computation, 2022, 18, 4708-4718.	5.3	3
5	Biexcitons fine structure and non-equilibrium effects in transition metal dichalcogenides monolayers from first principles. Communications Physics, 2021, 4, .	5.3	5
6	Exciton-Related Raman Scattering, Interband Absorption and Photoluminescence in Colloidal CdSe/CdS Core/Shell Quantum Dots Ensemble. Nanomaterials, 2021, 11, 1274.	4.1	7
7	Photoluminescence of Fully Inorganic Colloidal Gold Nanocluster and Their Manipulation Using Surface Charge Effects. Advanced Materials, 2021, 33, e2101549.	21.0	21
8	Screened configuration interaction method for open-shell excited states applied to NV centers. Physical Review B, 2021, 104, .	3.2	5
9	Effect of IT-M doping on charge transfer and ultrafast carrier dynamics of ternary organic solar cell materials. Journal Physics D: Applied Physics, 2020, 53, 095103.	2.8	4
10	Excitonic fine structure of zinc-blende and wurtzite colloidal CdSe nanocrystals and comparison to effective mass results. Physical Review B, 2020, 101, .	3.2	9
11	Singleâ€Crystalline Colloidal Quasiâ€2D Tin Telluride. Advanced Materials Interfaces, 2020, 7, 2000410.	3.7	5
12	Optical properties of zig-zag and armchair ZnO colloidal nanoribbons. Chemical Physics Letters, 2019, 732, 136659.	2.6	8
13	Phonon-Assisted Auger Process Enables Ultrafast Charge Transfer in CdSe Quantum Dot/Organic Molecule. Journal of Physical Chemistry C, 2019, 123, 17127-17135.	3.1	4
14	From Wurtzite Nanoplatelets to Zinc Blende Nanorods: Simultaneous Control of Shape and Phase in Ultrathin ZnS Nanocrystals. Journal of Physical Chemistry Letters, 2019, 10, 3828-3835.	4.6	21
15	Fundamental difference between measured and calculated exciton-phonon coupling in nanostructures. Physical Review B, 2019, 99, .	3.2	9
16	First-principles many-body theory for charged and neutral excitations: Trion fine structure splitting in transition metal dichalcogenides. Physical Review B, 2019, 100, .	3.2	21
17	Dielectric response function for colloidal semiconductor quantum dots. Journal of Chemical Physics, 2019, 151, 224103.	3.0	13
18	Realization of linearly polarized exciton emission in wurtzite zinc oxide quantum dots. Physical Review B, 2018, 98, .	3.2	13

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19	Uniaxial stress flips the natural quantization axis of a quantum dot for integrated quantum photonics. Nature Communications, 2018, 9, 3058.	12.8	35
20	Morphology control of exciton fine structure in polar and nonpolar zinc sulfide nanorods. Scientific Reports, 2017, 7, 9366.	3.3	4
21	Force field potentials for the vibrational properties of II-VI semiconductor nanostructures. Physical Review B, 2017, 96, .	3.2	8
22	Surface-bound states in nanodiamonds. Physical Review B, 2017, 95, .	3.2	13
23	Band gap renormalization of diamondoids: vibrational coupling and excitonic effects. New Journal of Physics, 2016, 18, 113052.	2.9	12
24	Nonspherical atomic effective pseudopotentials for surface passivation. Physical Review B, 2016, 94, .	3.2	5
25	Ab-Initio Calculations of the Vibrational Properties and Dynamical Processes in Semiconductor Nanostructures. , 2016, , 171-186.		1
26	Heavy strain conditions in colloidal core-shell quantum dots and their consequences on the vibrational properties fromab initiocalculations. Physical Review B, 2015, 92, .	3.2	17
27	Supercoupling between heavy-hole and light-hole states in nanostructures. Physical Review B, 2015, 92, .	3.2	31
28	Excitonic optical properties of wurtzite ZnS quantum dots under pressure. Journal of Chemical Physics, 2015, 142, 114305.	3.0	11
29	Mechanism of Efficient Proton Conduction in Diphosphoric Acid Elucidated via First-Principles Simulation and NMR. Journal of Physical Chemistry B, 2015, 119, 15866-15875.	2.6	26
30	Carrier relaxation in colloidal nanocrystals: Bridging large electronic energy gaps by low-energy vibrations. Physical Review B, 2015, 91, .	3.2	23
31	Large-scale atomic effective pseudopotential program including an efficient spin-orbit coupling treatment in real space. Physical Review B, 2015, 91, .	3.2	9
32	Near-band-edge exciton polarization change in ZnO nanowires. Physical Chemistry Chemical Physics, 2015, 17, 1197-1203.	2.8	14
33	Direct Quantitative Electrical Measurement of Many-Body Interactions in Exciton Complexes in InAs Quantum Dots. Physical Review Letters, 2014, 112, 046803.	7.8	16
34	A light-hole exciton in a quantum dot. Nature Physics, 2014, 10, 46-51.	16.7	111
35	Electronic and optical properties of strained In<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mi>x</mml:mi></mml:msub></mml:math>Ga<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^’</mml:mo><mml:mi>x</mml:mi></mml:mrow></mml:msub></mml:math>As/GaAs and strain-free GaAs/Al<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"	3.2	6
36	Ab-Initio Calculations of the Vibrational Properties of Nanostructures. , 2013, , 145-156.		0

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37	First principles molecular dynamics study of proton dynamics and transport in phosphoric acid/imidazole (2:1) system. Solid State Ionics, 2013, 252, 34-39.	2.7	43
38	Ab-Initio Calculations of the Vibrational Properties of Nanostructures. , 2013, , 167-181.		0
39	Ultrafast DC-Stark shifting of a single quantum dot. , 2013, , .		0
40	Large nuclear zero-point motion effect in semiconductor nanoclusters. Physical Review B, 2013, 88, .	3.2	28
41	Electronic and optical properties of ZnO quantum dots under hydrostatic pressure. Physical Review B, 2013, 87, .	3.2	54
42	Nonlinear piezoelectricity in wurtzite semiconductors. Physical Review B, 2013, 88, .	3.2	61
43	Vibronâ€“vibron coupling fromab initiomolecular dynamics simulations of a silicon cluster. New Journal of Physics, 2013, 15, 043039.	2.9	5
44	Atomistic Pseudopotential Theory of Droplet Epitaxial GaAs/AlGaAs Quantum Dots. Lecture Notes in Nanoscale Science and Technology, 2013, , 329-361.	0.8	1
45	Influence of the atomic-scale structure on the exciton fine-structure splitting in InGaAs and GaAs quantum dots in a vertical electric field. Physical Review B, 2012, 86, .	3.2	17
46	First-principles calculation of the electron-phonon interaction in semiconductor nanoclusters. Physical Review B, 2012, 85, .	3.2	30
47	Confinement effects on the vibrational properties of III-V and II-VI nanoclusters. Physical Review B, 2012, 85, .	3.2	34
48	Tuning of the Optical Emission Polarization of ZnO Nanorods by an Applied Hydrostatic Pressure. Journal of Physical Chemistry C, 2012, 116, 26592-26597.	3.1	10
49	Atomic effective pseudopotentials for semiconductors. Physical Review B, 2012, 86, .	3.2	15
50	The mechanism of proton conduction in phosphoric acid. Nature Chemistry, 2012, 4, 461-466.	13.6	428
51	Effects of charged defects on the electronic and optical properties of self-assembled quantum dots. Physical Review B, 2012, 85, .	3.2	9
52	Semiempirical pseudopotential approach for nitride-based nanostructures andab initiobased passivation of free surfaces. Physical Review B, 2012, 86, .	3.2	13
53	Controlling quantum dot emission by integration of semiconductor nanomembranes onto piezoelectric actuators. Physica Status Solidi (B): Basic Research, 2012, 249, 687-696.	1.5	36
54	Growth and spectroscopy of single lateral InGaAs/GaAs quantum dot molecules. Physica Status Solidi (B): Basic Research, 2012, 249, 710-720.	1.5	1

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55	Insights about the Surface of Colloidal Nanoclusters from Their Vibrational and Thermodynamic Properties. Journal of Physical Chemistry C, 2012, 116, 10790-10795.	3.1	12
56	Transition in the Optical Emission Polarization of ZnO Nanorods. Journal of Physical Chemistry C, 2011, 115, 15862-15867.	3.1	44
57	Interatomic potentials for the vibrational properties of III-V semiconductor nanostructures. Physical Review B, 2011, 83, .	3.2	24
58	Effects of atomic ordering on the electronic and optical properties of self-assembled In<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mi>x</mml:mi></mml:msub></mml:math>Ga<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^’</mml:mo><mml:mi>x</mml:mi></mml:mrow></mml:msub></mml:math>As/GaAs	3.2	20
59	Dependence of the Redshifted and Blueshifted Photoluminescence Spectra of Single<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>In</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:msub><mml:mi>Ga</mml:mi><mml:mi> Dots on the Applied Uniaxial Stress. Physical Review Letters, 2011, 107, 217402.	7.8	40
60	First- and second-order piezoelectricity in III-V semiconductors. Physical Review B, 2011, 84, .	3.2	65
61	Hydro-, Chloro- and Fluorographene Structures: A Density Functional Based Study. , 2011, , .		0
62	Hydrofluorinated graphene: Two-dimensional analog of polyvinylidene fluoride. Physical Review B, 2011, 84, .	3.2	48
63	Charged excitons and biexcitons in laterally coupled (In,Ga)As quantum dots. Physical Review B, 2010, 82, .	3.2	25
64	Heterogeneous confinement in laterally coupled InGaAs/GaAs quantum dot molecules under lateral electric fields. Physical Review B, 2010, 81, .	3.2	25
65	Influence of the charge carrier tunneling processes on the recombination dynamics in single lateral quantum dot molecules. Physical Review B, 2010, 82, .	3.2	15
66	â€œArtificial Atomsâ€•in Magnetic Fields: Wave-Function Shaping and Phase-Sensitive Tunneling. Physical Review Letters, 2010, 105, 176804.	7.8	25
67	Manipulating fine structure splitting in semiconductor quantum dots. Journal of Physics: Conference Series, 2010, 245, 012008.	0.4	3
68	Discovery of a Novel Linear-in-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>k</mml:mi></mml:math>Spin Splitting for Holes in the 2D<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>GaAs</mml:mi><mml:mo>/</mml:mo><mml:mi>AlAs</mml:mi></mml:math>System. Physical Review Letters, 2010, 104, 066405.	7.8	41
69	Lower Bound for the Excitonic Fine Structure Splitting in Self-Assembled Quantum Dots. Physical Review Letters, 2010, 104, 196803.	7.8	88
70	Tuning the Exciton Binding Energies in Single Self-Assembled<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>InGaAs</mml:mi><mml:mo>/</mml:mo><mml:mi>GaAs</mml:mi></mml:math>Quantum Dots by Piezoelectric-Induced Biaxial Stress. Physical Review Letters, 2010, 104, 067405.	7.8	160
71	Conventional Optics from Unconventional Electronics in ZnO Quantum Dots. Journal of Physical Chemistry C, 2010, 114, 9301-9307.	3.1	81
72	Structure of quantum dots as seen by excitonic spectroscopy versus structural characterization: Using theory to close the loop. Physical Review B, 2009, 80, .	3.2	45

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73	Coexistence and coupling of zero-dimensional, two-dimensional, and continuum resonances in nanostructures. Physical Review B, 2009, 80, .	3.2	20
74	Strain-induced localized states within the matrix continuum of self-assembled quantum dots. Applied Physics Letters, 2009, 95, 023108.	3.3	20
75	Long- and short-range electronâ€“hole exchange interaction in different types of quantum dots. New Journal of Physics, 2009, 11, 123024.	2.9	19
76	Electronic excitations in nanostructures: an empirical pseudopotential based approach. Journal of Physics Condensed Matter, 2009, 21, 023202.	1.8	79
77	Atomistic pseudopotential calculations of thickness-fluctuation GaAs quantum dots. Physical Review B, 2009, 79, .	3.2	24
78	Full-Zone Spin Splitting for Electrons and Holes in Bulk GaAs and GaSb. Physical Review Letters, 2009, 102, 056405.	7.8	47
79	Nanowire Quantum Dots as an Ideal Source of Entangled Photon Pairs. Physical Review Letters, 2009, 103, 063601.	7.8	184
80	Quantum-dot intermediate-band solar cells with inverted band alignment. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 41, 15-17.	2.7	7
81	Theoretical and experimental examination of the intermediate-band concept for strain-balanced (In,Ga)As/Ga(As,P) quantum dot solar cells. Physical Review B, 2008, 78, .	3.2	215
82	A thermodynamic study of the D03-ordered intermetallic compound Fe3Al. Journal of Alloys and Compounds, 2008, 458, 277-281.	5.5	5
83	Experimental imaging and atomistic modeling of electron and hole quasiparticle wave functions in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">In</mml:mi><mml:mi mathvariant="normal">As</mml:mi><mml:mo>â^•</mml:mo><mml:mi	3.2	42
84	Calculation of near-field scanning optical images of exciton, charged-exciton, and multiexciton wave functions in self-assembled<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">In</mml:mi><mml:mi mathvariant="normal">As</mml:mi><mml:mo>â^•</mml:mo><mml:mi mathvariant="normal">Ga</mml:mi><mml:mi mathvariant="normal">As</mml:mi></mml:mrow></mml:math>quantum dots. Physical Review B, 2007, 7	3.2	7
85	Thermodynamics and nonstoichiometry in the D03 compound Ni3Sb. Intermetallics, 2007, 15, 862-868.	3.9	12
86	Peculiar many-body effects revealed inÂtheÂspectroscopy of highly charged quantumÂdots. Nature Physics, 2007, 3, 774-779.	16.7	96
87	Fine Structure of Negatively and Positively Charged Excitons in Semiconductor Quantum Dots: Electron-Hole Asymmetry. Physical Review Letters, 2007, 98, 036808.	7.8	70
88	Effects of linear and nonlinear piezoelectricity on the electronic properties ofInAsâ^•GaAsquantum dots. Physical Review B, 2006, 74, .	3.2	135
89	Excitonic exchange effects on the radiative decay time of monoexcitons and biexcitons in quantum dots. Physical Review B, 2006, 74, .	3.2	41
90	Carrier relaxation mechanisms in self-assembled(In,Ga)Asâ^•GaAsquantum dots: EfficientPâ†'SAuger relaxation of electrons. Physical Review B, 2006, 74, .	3.2	71

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91	Importance of Second-Order Piezoelectric Effects in Zinc-Blende Semiconductors. Physical Review Letters, 2006, 96, 187602.	7.8	197
92	Confinement-Induced versus Correlation-Induced Electron Localization and Wave Function Entanglement in Semiconductor Nano Dumbbells. Nano Letters, 2006, 6, 1069-1074.	9.1	19
93	Predicting the electronic properties of 3D, million-atom semiconductor nanostructure architectures. Journal of Physics: Conference Series, 2006, 46, 292-298.	0.4	7
94	Theoretical predictions of the electronic and optical properties of single and coupled (In,Ga)As/GaAs quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 32, 93-96.	2.7	8
95	NanoPSE: Nanoscience Problem Solving Environment for atomistic electronic structure of semiconductor nanostructures. Journal of Physics: Conference Series, 2005, 16, 277-282.	0.4	3
96	Dependence of the electronic structure of self-assembled (In,Ga)Asâˆ•GaAs quantum dots on height and composition. Journal of Applied Physics, 2005, 98, 043708.	2.5	43
97	Electric field control and optical signature of entanglement in quantum dot molecules. Physical Review B, 2005, 72, .	3.2	33
98	Electronic asymmetry in self-assembled quantum dot molecules made of identicalInAsâˆ•GaAsquantum dots. Physical Review B, 2005, 72, .	3.2	22
99	Interlayer contraction inMgB2upon replacement of Mg by Al: Effect of the covalent bond energy. Physical Review B, 2005, 72, .	3.2	12
100	Singlet-triplet splitting, correlation, and entanglement of two electrons in quantum dot molecules. Physical Review B, 2005, 72, .	3.2	37
101	Broken symmetry and quantum entanglement of an exciton inInxGa1âˆ’xAsâˆ•GaAsquantum dot molecules. Physical Review B, 2005, 71, .	3.2	69
102	Electronic Phase Diagrams of Carriers in Self-Assembled Quantum Dots: Violation of Hundâ€™s Rule and the Aufbau Principle for Holes. Physical Review Letters, 2005, 95, 246804.	7.8	31
103	Pressure effects on neutral and charged excitons in self-assembled (In,Ga)Asâˆ•GaAsquantum dots. Physical Review B, 2005, 72, .	3.2	17
104	Publisher's Note: Broken symmetry and quantum entanglement of an exciton inInxGa1âˆ’xAsâˆ•GaAsquantum dot molecules [Phys. Rev. B71, 075325 (2005)]. Physical Review B, 2005, 71, .	3.2	1
105	Publisher's Note: Singlet-triplet splitting, correlation, and entanglement of two electrons in quantum dot molecules [Phys. Rev. B72, 195307 (2005)]. Physical Review B, 2005, 72, .	3.2	5
106	Cylindrically shaped zinc-blende semiconductor quantum dots do not have cylindrical symmetry:â€ƒAtomistic symmetry, atomic relaxation, and piezoelectric effects. Physical Review B, 2005, 71, .	3.2	203
107	Excitons, biexcitons, and trions in self-assembled(In,Ga)Asâˆ•GaAsquantum dots: Recombination energies, polarization, and radiative lifetimes versus dot height. Physical Review B, 2005, 72, .	3.2	93
108	Prediction of an Excitonic Ground State inInAs/InSbQuantum Dots. Physical Review Letters, 2005, 94, 016801.	7.8	26

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109	Theory of Excitonic Spectra and Entanglement Engineering in Dot Molecules. Physical Review Letters, 2004, 93, 047401.	7.8	85
110	Theory of excitons, charged excitons, exciton fine-structure and entangled excitons in self-assembled semiconductor quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 21, 204-210.	2.7	6
111	Strain-induced interfacial hole localization in self-assembled quantum dots:â€ƒCompressiveInAsâ•GaAsversus tensileInAsâ•InSb. Physical Review B, 2004, 70, .	3.2	45
112	Prediction of a Shape-Induced Enhancement in the Hole Relaxation in Nanocrystals. Nano Letters, 2003, 3, 1197-1202.	9.1	41
113	Pseudopotential calculation of the excitonic fine structure of million-atom self-assembledIn1â’xGaxAs/GaAsquantum dots. Physical Review B, 2003, 67, .	3.2	316
114	Compositional and size-dependent spectroscopic shifts in charged self-assembledInxGa1â’xAs/GaAsquantum dots. Physical Review B, 2003, 68, .	3.2	47
115	On the electronic structure of the pure and oxygen covered Ru() surface. Surface Science, 2002, 497, 305-310.	1.9	4
116	Dominant thermal defects in B2â€“FeAl. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 323, 487-490.	5.6	14
117	Structural vacancies in B2 CoAl and NiAl. Scripta Materialia, 2001, 44, 2485-2488.	5.2	17
118	Interpretation ofab initiototal energy results in a chemical language: II. Stability of TiAl3and ScAl3. Journal of Physics Condensed Matter, 2001, 13, 11551-11565.	1.8	19
119	Interpretation ofab initiototal energy results in a chemical language: I. Formalism and implementation into a mixed-basis pseudopotential code. Journal of Physics Condensed Matter, 2001, 13, 11541-11550.	1.8	65
120	From the Electronic Structure to the Macroscopic Behavior: A Multi-scale Analysis of Plasticity in Intermetallic Compounds. Materials Research Society Symposia Proceedings, 2000, 652, 1.	0.1	0
121	Analysis of the electronic structure of intermetallic compounds, and application to structural defects in B2 phases. Journal of Alloys and Compounds, 2000, 308, 1-14.	5.5	31
122	Atomic defects in the ordered compound B2-CoAl: A combination ofab initioelectron theory and statistical mechanics. Physical Review B, 1999, 60, 14492-14495.	3.2	31
123	Ab initio calculation of the activation energy for Ni self-diffusion in D03 Ni3Sb. Physical Review B, 1999, 59, 3274-3275.	3.2	4
124	Comment on â€œPoint defect behavior in high temperature regionin the B2-type intermetallic compound FeAlâ•by M. Kogachi,T. Haraguchi and S.M. Kim. Intermetallics, 1999, 7, 1307-1308.	3.9	17
125	On the meaning of effective formation entropies for atomic defects in ordered compounds. Scripta Materialia, 1998, 39, 1071-1075.	5.2	12
126	Atomic defects inD03-Ni3Sb: Anabinitiostudy. Physical Review B, 1998, 57, R11019-R11022.	3.2	18

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127	Diffusion in Metals and Intermetallic Compounds: The Impact of AB-INITIO Calculations. Materials Research Society Symposia Proceedings, 1998, 527, 23.	0.1	15
128	Effective formation energies of atomic defects in D03î—¸Fe3Al: an ab-initio study. Intermetallics, 1997, 5, 597-600.	3.9	42