Emmanouil Kioupakis

List of Publications by Year in Descending Order

92 papers	3,561 citations	32 h-index	58 g-index
101 ext. papers	4,207 ext. citations	6 avg, IF	5.93 L-index

#	Paper	IF	Citations
92	Scalable Synthesis of Monolayer Hexagonal Boron Nitride on Graphene with Giant Bandgap Renormalization.. *Advanced Materials*, **2022**, e2201387	24	5
91	Experimental and theoretical study of hole scattering in RF sputtered p-type Cu2O thin films. *Applied Physics Letters*, **2022**, 120, 112105	3.4	0
90	Memristors Based on (Zr, Hf, Nb, Ta, Mo, W) High-Entropy Oxides. *Advanced Electronic Materials*, **2021**, 7, 2001258	6.4	9
89	Engineering new limits to magnetostriction through metastability in iron-gallium alloys. *Nature Communications*, **2021**, 12, 2757	17.4	2
88	Toward the predictive discovery of ambipolarly dopable ultra-wide-band-gap semiconductors: The case of rutile GeO2. *Applied Physics Letters*, **2021**, 118, 260501	3.4	7
87	Semiconducting character of LaN: Magnitude of the bandgap and origin of the electrical conductivity. *AIP Advances*, **2021**, 11, 065312	1.5	1
86	Oxygen defect dominated photoluminescence emission of ScxAl1−xN grown by molecular beam epitaxy. *Applied Physics Letters*, **2021**, 118, 032102	3.4	14
85	Effect of Stacking Orientation on the Electronic and Optical Properties of Polar 2D III-Nitride Bilayers. *Journal of Physical Chemistry C*, **2021**, 125, 16837-16842	3.8	0
84	Phonon- and defect-limited electron and hole mobility of diamond and cubic boron nitride: A critical comparison. *Applied Physics Letters*, **2021**, 119, 062101	3.4	4
83	Cation-size mismatch as a predictive descriptor for structural distortion, configurational disorder, and valence-band splitting in II-IV-N2 semiconductors. *Applied Physics Letters*, **2021**, 119, 132104	3.4	1
82	Dielectric Engineering for Manipulating Exciton Transport in Semiconductor Monolayers. *Nano Letters*, **2021**, 21, 8409-8417	11.5	3
81	Nanoscale AlGaN and BN: Molecular beam epitaxy, properties, and device applications. *Semiconductors and Semimetals*, **2021**, 153-189	0.6	1
80	Electron and hole mobility of rutile GeO2 from first principles: An ultrawide-bandgap semiconductor for power electronics. *Applied Physics Letters*, **2020**, 117, 182104	3.4	10
79	Atomistic analysis of radiative recombination rate, Stokes shift, and density of states in c-plane InGaN/GaN quantum wells. *Applied Physics Letters*, **2020**, 116, 181104	3.4	3
78	Hyperspectral absorption of semiconductor monolayer crystals. *Applied Physics Letters*, **2020**, 116, 181103	3.4	2
77	Semiconducting High-Entropy Chalcogenide Alloys with Ambi-ionic Entropy Stabilization and Ambipolar Doping. *Chemistry of Materials*, **2020**, 32, 6070-6077	9.6	18
76	Optical properties of cubic boron arsenide. *Applied Physics Letters*, **2020**, 116, 141903	3.4	6

75	Boron arsenide heterostructures: lattice-matched heterointerfaces and strain effects on band alignments and mobility. *Npj Computational Materials*, **2020**, 6,	10.9	10
74	High electron mobility of AlxGa1−xN evaluated by unfolding the DFT band structure. *Applied Physics Letters*, **2020**, 117, 242105	3.4	7
73	Monolayer GaN excitonic deep ultraviolet light emitting diodes. *Applied Physics Letters*, **2020**, 116, 013101	3.4	17
72	Controlling Defect Formation of Nanoscale AlN: Toward Efficient Current Conduction of Ultrawide-Bandgap Semiconductors. *Advanced Electronic Materials*, **2020**, 6, 2000337	6.4	7
71	Thermal conductivity of rutile germanium dioxide. *Applied Physics Letters*, **2020**, 117, 102106	3.4	10
70	Epitaxial stabilization of rutile germanium oxide thin film by molecular beam epitaxy. *Applied Physics Letters*, **2020**, 117, 072105	3.4	6
69	Limitations of In2O3 as a transparent conducting oxide. *Applied Physics Letters*, **2019**, 115, 082105	3.4	12
68	Room-temperature stability of excitons and transverse-electric polarized deep-ultraviolet luminescence in atomically thin GaN quantum wells. *Applied Physics Letters*, **2019**, 115, 131101	3.4	16
67	Deep Ultraviolet Luminescence Due to Extreme Confinement in Monolayer GaN/Al(Ga)N Nanowire and Planar Heterostructures. *Nano Letters*, **2019**, 19, 7852-7858	11.5	20
66	Vibrational and electron-phonon coupling properties of β-Ga2O3 from first-principles calculations: Impact on the mobility and breakdown field. *AIP Advances*, **2019**, 9, 015313	1.5	27
65	Band structure and carrier effective masses of boron arsenide: Effects of quasiparticle and spin-orbit coupling corrections. *Applied Physics Letters*, **2019**, 114, 022101	3.4	31
64	Rutile GeO2: An ultrawide-band-gap semiconductor with ambipolar doping. *Applied Physics Letters*, **2019**, 114, 102104	3.4	18
63	Lattice-constant and band-gap tuning in wurtzite and zincblende BInGaN alloys. *Journal of Applied Physics*, **2019**, 126, 055702	2.5	3
62	Predictive Simulations for Tuning Electronic and Optical Properties of SubPc Derivatives. *Journal of Electronic Materials*, **2019**, 48, 2962-2970	1.9	3
61	Alloy-Free Band Gap Tuning across the Visible Spectrum. *Physical Review Letters*, **2019**, 122, 256403	7.4	27
60	Quasiparticle band structure and optical properties of rutile GeO2, an ultra-wide-band-gap semiconductor. *Journal of Applied Physics*, **2019**, 126, 085703	2.5	13
59	Enhanced doping efficiency of ultrawide band gap semiconductors by metal-semiconductor junction assisted epitaxy. *Physical Review Materials*, **2019**, 3,	3.2	19
58	Magnetic frustration control through tunable stereochemically driven disorder in entropy-stabilized oxides. *Physical Review Materials*, **2019**, 3,	3.2	18

57	Charge Transition of Oxygen Vacancies during Resistive Switching in Oxide-Based RRAM. *ACS Applied Materials & Interfaces*, **2019**, 11, 11579-11586	9.5	42
56	Impact of the stacking sequence on the bandgap and luminescence properties of bulk, bilayer, and monolayer hexagonal boron nitride. *APL Materials*, **2019**, 7, 021106	5.7	20
55	BAlGaN alloys nearly lattice-matched to AlN for efficient UV LEDs. *Applied Physics Letters*, **2019**, 115, 231103	3.4	4
54	Relativistic quasiparticle band structures of Mg2Si, Mg2Ge, and Mg2Sn: Consistent parameterization and prediction of Seebeck coefficients. *Journal of Applied Physics*, **2018**, 123, 085114	2.5	11
53	Surface phonons in the topological insulators Bi2Se3 and Bi2Te3. *Solid State Communications*, **2018**, 271, 1-5	1.6	7
52	Effect of growth temperature on the structural and optical properties of few-layer hexagonal boron nitride by molecular beam epitaxy. *Optics Express*, **2018**, 26, 23031-23039	3.3	14
51	Insights on the Synthesis, Crystal and Electronic Structures, and Optical and Thermoelectric Properties of SrSb HfSe Orthorhombic Perovskite. *Inorganic Chemistry*, **2018**, 57, 7402-7411	5.1	10
50	Radiative and Auger recombination processes in indium nitride. *Applied Physics Letters*, **2018**, 112, 251108	3.4	12
49	Point defects and dopants of boron arsenide from first-principles calculations: Donor compensation and doping asymmetry. *Applied Physics Letters*, **2018**, 113, 212101	3.4	26
48	Electronic and Optical Properties of Two-Dimensional PbO from First Principles. *Chemistry of Materials*, **2018**, 30, 7124-7129	9.6	11
47	Unexpectedly Strong Auger Recombination in Halide Perovskites. *Advanced Energy Materials*, **2018**, 8, 1801027	21.8	36
46	Sustainable p-type copper selenide solar material with ultra-large absorption coefficient. *Chemical Science*, **2018**, 9, 5405-5414	9.4	13
45	Electrochemical Window of the Li-Ion Solid Electrolyte Li7La3Zr2O12. *ACS Energy Letters*, **2017**, 2, 462-468	20.1	164
44	Electronic and optical properties of oxygen vacancies in amorphous TaO from first principles. *Nanoscale*, **2017**, 9, 1120-1127	7.7	34
43	Electronic and Optical Properties of Two-Dimensional GaN from First-Principles. *Nano Letters*, **2017**, 17, 7345-7349	11.5	101
42	Impact of carrier localization on recombination in InGaN quantum wells and the efficiency of nitride light-emitting diodes: Insights from theory and numerical simulations. *Applied Physics Letters*, **2017**, 111, 113501	3.4	44
41	Effect of strain on band alignment of GaAsSb/GaAs quantum wells. *Journal of Applied Physics*, **2017**, 122, 045703	2.5	7
40	BInGaN alloys nearly lattice-matched to GaN for high-power high-efficiency visible LEDs. *Applied Physics Letters*, **2017**, 111, 211107	3.4	14

39	Giant Ferroelectric Polarization in Ultrathin Ferroelectrics via Boundary-Condition Engineering. *Advanced Materials*, **2017**, 29, 1701475	24	35
38	Protecting the properties of monolayer MoS□on silicon based substrates with an atomically thin buffer. *Scientific Reports*, **2016**, 6, 20890	4.9	47
37	Tuning Ionic Transport in Memristive Devices by Graphene with Engineered Nanopores. *ACS Nano*, **2016**, 10, 3571-9	16.7	106
36	**2016**,		1
35	Stabilization of orthorhombic phase in single-crystal ZnSnN2 films. *AIP Advances*, **2016**, 6, 075019	1.5	32
34	Deep ultraviolet emission from ultra-thin GaN/AlN heterostructures. *Applied Physics Letters*, **2016**, 109, 241102	3.4	53
33	First-principles calculations of the near-edge optical properties of □Ga2O3. *Applied Physics Letters*, **2016**, 109, 212104	3.4	51
32	Predicting and Designing Optical Properties of Inorganic Materials. *Annual Review of Materials Research*, **2015**, 45, 491-518	12.8	45
31	Anisotropic Spin Transport and Strong Visible-Light Absorbance in Few-Layer SnSe and GeSe. *Nano Letters*, **2015**, 15, 6926-31	11.5	231
30	Auger recombination in sodium-iodide scintillators from first principles. *Applied Physics Letters*, **2015**, 106, 141901	3.4	7
29	Frenkel-like Wannier-Mott excitons in few-layer PbI2. *Physical Review B*, **2015**, 91,	3.3	45
28	Designing interchain and intrachain properties of conjugated polymers for latent optical information encoding. *Chemical Science*, **2015**, 6, 6980-6985	9.4	10
27	Electronic and Optical Properties of Nanoporous Silicon for Solar-Cell Applications. *ACS Photonics*, **2015**, 2, 208-215	6.3	36
26	Pb7Bi4Se13: a lillianite homologue with promising thermoelectric properties. *Inorganic Chemistry*, **2015**, 54, 746-55	5.1	50
25	Theoretical limits of thermoelectric figure of merit in n-type TiO2 polymorphs. *Physical Review B*, **2015**, 91,	3.3	26
24	First-principles calculations of indirect Auger recombination in nitride semiconductors. *Physical Review B*, **2015**, 92,	3.3	57
23	Free-carrier absorption in transparent conducting oxides: Phonon and impurity scattering in SnO2. *Physical Review B*, **2015**, 92,	3.3	28
22	Quasiparticle band structures and thermoelectric transport properties of p-type SnSe. *Journal of Applied Physics*, **2015**, 117, 065103	2.5	111

21	Polarization-Dependent Raman Spectroscopy of Epitaxial TiO2(B) Thin Films. *Chemistry of Materials* , **2015**, 27, 7896-7902	9.6	23
20	Visible-wavelength polarized-light emission with small-diameter InN nanowires. *Nano Letters*, **2014**, 14, 3709-14	11.5	29
19	Low-temperature structural and transport anomalies in Cu2Se. *Physical Review B*, **2014**, 89,	3.3	46
18	Auger Recombination in GaAs from First Principles. *ACS Photonics*, **2014**, 1, 643-646	6.3	26
17	First-principles study of high-field-related electronic behavior of group-III nitrides. *Physical Review B* , **2014**, 90,	3.3	15
16	Electronic properties of tantalum pentoxide polymorphs from first-principles calculations. *Applied Physics Letters*, **2014**, 105, 202108	3.4	23
15	Phase Stability and Transport Mechanisms in Antiperovskite Li3OCl and Li3OBr Superionic Conductors. *Chemistry of Materials*, **2013**, 25, 4663-4670	9.6	151
14	Temperature and carrier-density dependence of Auger and radiative recombination in nitride optoelectronic devices. *New Journal of Physics*, **2013**, 15, 125006	2.9	85
13	Phonon-assisted optical absorption in silicon from first principles. *Physical Review Letters*, **2012**, 108, 167402	7.4	110
12	Interplay of polarization fields and Auger recombination in the efficiency droop of nitride light-emitting diodes. *Applied Physics Letters*, **2012**, 101, 231107	3.4	137
11	Fundamental limits on optical transparency of transparent conducting oxides: Free-carrier absorption in SnO2. *Applied Physics Letters*, **2012**, 100, 011914	3.4	78
10	First-principles optical spectra for F centers in MgO. *Physical Review Letters*, **2012**, 108, 126404	7.4	131
9	Quasiparticle effects in the bulk and surface-state bands of Bi2Se3 and Bi2Te3 topological insulators. *Physical Review B*, **2012**, 85,	3.3	101
8	Indirect Auger recombination as a cause of efficiency droop in nitride light-emitting diodes. *Applied Physics Letters*, **2011**, 98, 161107	3.4	388
7	Quasiparticle electronic structure of bismuth telluride in the GW approximation. *Physical Review B*, **2010**, 82,	3.3	50
6	Free-carrier absorption in nitrides from first principles. *Physical Review B*, **2010**, 81,	3.3	97
5	Determination of Internal Loss in Nitride Lasers from First Principles. *Applied Physics Express*, **2010**, 3, 082101	2.4	56
4	Spatially resolved electronic and vibronic properties of single diamondoid molecules. *Nature Materials*, **2008**, 7, 38-42	27	80

3	GW quasiparticle corrections to the LDA+U□GA+U electronic structure of bcc hydrogen. *Physical Review B*, **2008**, 77,	3.3	29
2	Theoretical characterization and computational discovery of ultra-wide-band-gap semiconductors with predictive atomistic calculations. *Journal of Materials Research*,1	2.5	1
1	Energy Conversion: Solid-State Lighting231-259		2