John L Lyons

List of Publications by Year
in descending order

57 papers	4,148 citations	186265 28 h-index	155660 55 g-index
59 all docs	59 docs citations	59 times ranked	5245 citing authors

#	Article	IF	Citations
1	Self-trapped holes and polaronic acceptors in ultrawide-bandgap oxides. Journal of Applied Physics, 2022, 131, 025701.	2.5	9
2	Optical transitions of neutral Mg in Mg-doped <i>Î²</i>-Ga2O3. APL Materials, 2022, 10, .	5.1	9
3	Dark and Bright Excitons in Halide Perovskite Nanoplatelets. Advanced Science, 2022, 9, e2103013.	11.2	36
4	Role of carbon and hydrogen in limiting <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -type doping of monoclinic <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mo>(</mml:mo><mml:msub><mml:mi>Al</mml:mi><mml:m ma. Physical Review B, 2022, 105, .	3.2	18
5	(Invited, Digital Presentation) Doping Gallium Oxide and Competing Ultra-Wide Bandgap Oxides. ECS Meeting Abstracts, 2022, MA2022-01, 1319-1319.	0.0	0
6	A first-principles understanding of point defects and impurities in GaN. Journal of Applied Physics, 2021, 129, .	2.5	55
7	Electronic structure of cubic boron arsenide probed by scanning tunneling spectroscopy. Journal Physics D: Applied Physics, 2021, 54, 31LT01.	2.8	4
8	Effective Donor Dopants for Lead Halide Perovskites. Chemistry of Materials, 2021, 33, 6200-6205.	6.7	10
9	Properties of orthorhombic Ga2O3 alloyed with In2O3 and Al2O3. Applied Physics Letters, 2021, 119, .	3.3	11
10	Hole Trapping at Acceptor Impurities and Alloying Elements in AlN. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100218.	2.4	3
11	Carbon complexes in highly C-doped GaN. Physical Review B, 2021, 104, .	3.2	18
12	Deep levels in cesium lead bromide from native defects and hydrogen. Journal of Materials Chemistry A, 2021, 9, 7491-7495.	10.3	18
13	Rashba exciton in a 2D perovskite quantum dot. Nanoscale, 2021, 13, 16769-16780.	5.6	11
14	Prospects for <i>n</i>-type conductivity in cubic boron nitride. Applied Physics Letters, 2021, 119, .	3.3	9
15	Deepâ€Level Defects and Impurities in InGaN Alloys. Physica Status Solidi (B): Basic Research, 2020, 257, 1900534.	1.5	13
16	Atomic Layer Epitaxy of III-Nitrides: A Microscopic Model of Homoepitaxial Growth. ACS Applied Materials & Interfaces, 2020, 12, 49245-49251.	8.0	3
17	Radiative capture rates at deep defects from electronic structure calculations. Physical Review B, 2020, 102, .	3.2	14
18	Band Alignment of Sc_{<i>x</i>}Al_{1â€“<i>x</i>}N/GaN Heterojunctions. ACS Applied Materials & Interfaces, 2020, 12, 52192-52200.	8.0	22

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19	Evaluation of alternatives to paraffin for antirelaxation coatings. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	2.1	2
20	Orthorhombic alloys of Ga2O3 and Al2O3. Applied Physics Letters, 2020, 116, .	3.3	10
21	Effect of Anisotropic Confinement on Electronic Structure and Dynamics of Band Edge Excitons in Inorganic Perovskite Nanowires. Journal of Physical Chemistry A, 2020, 124, 1867-1876.	2.5	33
22	Prospects for <i>n</i>-type doping of (Al<i>x</i>Ga1âˆ’<i>x</i>)2O3 alloys. Applied Physics Letters, 2020, 116, .	3.3	44
23	(Invited) First-Principles Understanding of Deep-Level Defects and Impurities in GaN and Nitride Alloys. ECS Meeting Abstracts, 2020, MA2020-02, 1822-1822.	0.0	0
24	Deep acceptors and their diffusion in Ga2O3. APL Materials, 2019, 7, .	5.1	143
25	Electronic Properties of Ga₂O₃ Polymorphs. ECS Journal of Solid State Science and Technology, 2019, 8, Q3226-Q3228.	1.8	34
26	Exciton Fine Structure in Perovskite Nanocrystals. Nano Letters, 2019, 19, 4068-4077.	9.1	128
27	Ultrathin Amorphous Titania on Nanowires: Optimization of Conformal Growth and Elucidation of Atomic-Scale Motifs. Nano Letters, 2019, 19, 3457-3463.	9.1	14
28	Multicomponent Oxynitride Thin Films: Precise Growth Control and Excited State Dynamics. Chemistry of Materials, 2019, 31, 3461-3467.	6.7	7
29	Editors' Choiceâ€”Reviewâ€”Theory and Characterization of Doping and Defects in Î²-Ga₂O₃. ECS Journal of Solid State Science and Technology, 2019, 8, Q3187-Q3194.	1.8	148
30	Quasicubic model for metal halide perovskite nanocrystals. Journal of Chemical Physics, 2019, 151, 234106.	3.0	64
31	First-Principles Calculations of Point Defects for Quantum Technologies. Annual Review of Materials Research, 2018, 48, 1-26.	9.3	93
32	A survey of acceptor dopants for<i>Î²</i>-Ga₂O₃. Semiconductor Science and Technology, 2018, 33, 05LT02.	2.0	151
33	Bright triplet excitons in caesium lead halide perovskites. Nature, 2018, 553, 189-193.	27.8	716
34	Defect identification based on first-principles calculations for deep level transient spectroscopy. Applied Physics Letters, 2018, 113, .	3.3	51
35	Impurity-derived <i>p</i>-type conductivity in cubic boron arsenide. Applied Physics Letters, 2018, 113, .	3.3	39
36	Atomic Layer Epitaxy of Aluminum Nitride: Unraveling the Connection between Hydrogen Plasma and Carbon Contamination. ACS Applied Materials & Interfaces, 2018, 10, 20142-20149.	8.0	11

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37	Identification of yellow luminescence centers in Be-doped GaN through pressure-dependent studies. Journal Physics D: Applied Physics, 2017, 50, 22LT03.	2.8	17
38	Computationally predicted energies and properties of defects in GaN. Npj Computational Materials, 2017, 3, .	8.7	196
39	Gallium vacancy complexes as a cause of Shockley-Read-Hall recombination in III-nitride light emitters. Applied Physics Letters, 2016, 108, .	3.3	91
40	Role of excited states in Shockley-Read-Hall recombination in wide-band-gap semiconductors. Physical Review B, 2016, 93, .	3.2	89
41	Electron and chemical reservoir corrections for point-defect formation energies. Physical Review B, 2016, 93, .	3.2	50
42	Semiconductorâ€Based Photoelectrochemical Water Splitting at the Limit of Very Wide Depletion Region. Advanced Functional Materials, 2016, 26, 219-225.	14.9	39
43	Identification of Microscopic Hole-Trapping Mechanisms in Nitride Semiconductors. IEEE Electron Device Letters, 2016, 37, 154-156.	3.9	7
44	Firstâ€principles theory of acceptors in nitride semiconductors. Physica Status Solidi (B): Basic Research, 2015, 252, 900-908.	1.5	115
45	Sulfur doping of AlN and AlGaN for improved n-type conductivity. Physica Status Solidi - Rapid Research Letters, 2015, 9, 462-465.	2.4	12
46	Carbon-induced trapping levels in oxide dielectrics. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, .	2.1	12
47	First-principles study of vacancy-assisted impurity diffusion in ZnO. APL Materials, 2014, 2, 096101.	5.1	35
48	Band alignments and polarization properties of BN polymorphs. Applied Physics Express, 2014, 7, 031001.	2.4	46
49	Theory and Modeling of Oxide Semiconductors. Semiconductors and Semimetals, 2013, 88, 1-37.	0.7	8
50	Impact of native defects in highâ€k dielectric oxides on GaN/oxide metalâ€"oxideâ€"semiconductor devices. Physica Status Solidi (B): Basic Research, 2013, 250, 787-791.	1.5	25
51	Impact of carbon and nitrogen impurities in high-Îº dielectrics on metal-oxide-semiconductor devices. Applied Physics Letters, 2013, 102, .	3.3	96
52	Impact of Group-II Acceptors on the Electrical and Optical Properties of GaN. Japanese Journal of Applied Physics, 2013, 52, 08JJ04.	1.5	44
53	First-Principles Calculations of Luminescence Spectrum Line Shapes for Defects in Semiconductors: The Example of GaN and ZnO. Physical Review Letters, 2012, 109, 267401.	7.8	187
54	Shallow versus Deep Nature of Mg Acceptors in Nitride Semiconductors. Physical Review Letters, 2012, 108, 156403.	7.8	230

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55	Carbon impurities and the yellow luminescence in GaN. Applied Physics Letters, 2010, 97, .	3.3	531
56	Why nitrogen cannot lead to p-type conductivity in ZnO. Applied Physics Letters, 2009, 95, .	3.3	364
57	Shedding light on doping of gallium nitride. SPIE Newsroom, 0, , .	0.1	2