

John Lekner

List of Publications by Year in descending order

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157
papers

4,893
citations

186209

28
h-index

106281

65
g-index

165
all docs

165
docs citations

165
times ranked

2416
citing authors

#	ARTICLE	IF	CITATIONS
1	Structure and Resistivity of Liquid Metals. <i>Physical Review</i> , 1966, 145, 83-90.	2.7	1,213
2	Motion of Electrons in Liquid Argon. <i>Physical Review</i> , 1967, 158, 130-137.	2.7	304
3	Theory of Hot Electrons in Gases, Liquids, and Solids. <i>Physical Review</i> , 1967, 158, 305-309.	2.7	278
4	Summation of Coulomb fields in computer-simulated disordered systems. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1991, 176, 485-498.	1.2	262
5	Theory of Reflection of Electromagnetic and Particle Waves. , 1987, , .		163
6	Mobility of an Impurity in a Fermi Liquid. <i>Physical Review Letters</i> , 1969, 23, 111-113.	2.9	154
7	Reflection and refraction by uniaxial crystals. <i>Journal of Physics Condensed Matter</i> , 1991, 3, 6121-6133.	0.7	115
8	Reflectionless eigenstates of the sech ² potential. <i>American Journal of Physics</i> , 2007, 75, 1151-1157.	0.3	110
9	Electrostatics of two charged conducting spheres. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2012, 468, 2829-2848.	1.0	110
10	Optical properties of isotropic chiral media. <i>Journal of Optics</i> , 1996, 5, 417-443.	0.5	109
11	Theory of Reflection. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2016, , .	0.1	96
12	Light in periodically stratified media. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1994, 11, 2892.	0.8	95
13	Summation of dipolar fields in simulated liquid-vapour interfaces. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1989, 157, 826-838.	1.2	91
14	Drift Velocity and Energy of Electrons in Liquid Argon. <i>Physical Review</i> , 1967, 156, 351-352.	2.7	83
15	Omnidirectional reflection by multilayer dielectric mirrors. <i>Journal of Optics</i> , 2000, 2, 349-352.	1.5	65
16	On the Equation of State of the Rigid-Sphere Fluid. <i>Journal of Chemical Physics</i> , 1965, 42, 3559-3565.	1.2	64
17	Capacitance coefficients of two spheres. <i>Journal of Electrostatics</i> , 2011, 69, 11-14.	1.0	62
18	Surface tension and energy of a classical liquid-vapour interface. <i>Molecular Physics</i> , 1977, 34, 333-359.	0.8	61

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19	Theoretical determination of the thickness of a liquid-vapour interface. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1978, 94, 545-558.	1.2	59
20	Positive ion mobility in ^3He - ^4He mixtures. <i>Journal of Physics C: Solid State Physics</i> , 1970, 3, L127-L130.	1.5	48
21	Acoustic beams with angular momentum. <i>Journal of the Acoustical Society of America</i> , 2006, 120, 3475-3478.	0.5	48
22	Polarization of tightly focused laser beams. <i>Journal of Optics</i> , 2003, 5, 6-14.	1.5	46
23	Energetics of hydrogen ordering in ice. <i>Physica B: Condensed Matter</i> , 1998, 252, 149-159.	1.3	40
24	Brewster angles in reflection by uniaxial crystals. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1993, 10, 2059.	0.8	39
25	Viscous flow through pipes of various cross-sections. <i>European Journal of Physics</i> , 2007, 28, 521-527.	0.3	39
26	Critical binding of diatomic molecules. <i>Molecular Physics</i> , 1972, 23, 619-625.	0.8	32
27	Analytical expression for the electric field enhancement between two closely-spaced conducting spheres. <i>Journal of Electrostatics</i> , 2010, 68, 299-304.	1.0	31
28	Reflection theory and the analysis of neutron reflection data. <i>Physica B: Condensed Matter</i> , 1991, 173, 99-111.	1.3	28
29	TM, TE and 'TEM' beam modes: exact solutions and their problems. <i>Journal of Optics</i> , 2001, 3, 407-412.	1.5	28
30	Electrostatic force between two conducting spheres at constant potential difference. <i>Journal of Applied Physics</i> , 2012, 111, 076102.	1.1	28
31	Normal-incidence reflection and transmission by uniaxial crystals and crystal plates. <i>Journal of Physics Condensed Matter</i> , 1992, 4, 1387-1398.	0.7	26
32	Invariants of three types of generalized Bessel beams. <i>Journal of Optics</i> , 2004, 6, 837-843.	1.5	26
33	Near approach of two conducting spheres: Enhancement of external electric field. <i>Journal of Electrostatics</i> , 2011, 69, 559-563.	1.0	25
34	Liquid-vapour coexistence and correlations in the interface. <i>Molecular Physics</i> , 1980, 39, 1437-1443.	0.8	23
35	Coulomb Forces and Potentials in Systems with an Orthorhombic Unit Cell. <i>Molecular Simulation</i> , 1998, 20, 357-368.	0.9	23
36	Surface oscillations and the surface thickness of classical and quantum droplets. <i>Molecular Physics</i> , 1978, 36, 781-789.	0.8	22

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37	Parametric solution of the van der Waals liquid-vapor coexistence curve. <i>American Journal of Physics</i> , 1982, 50, 161-163.	0.3	22
38	Second-order ellipsometric coefficients. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1982, 113, 506-520.	1.2	22
39	Local fields near the surface of a crystalline dielectric. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1980, 101, 89-98.	1.2	21
40	Tight focusing of light beams: a set of exact solutions. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2016, 472, 20160538.	1.0	21
41	Phase and transport velocities in particle and electromagnetic beams. <i>Journal of Optics</i> , 2002, 4, 491-499.	1.5	20
42	Acoustic beam invariants. <i>Physical Review E</i> , 2007, 75, 036610.	0.8	20
43	Analytic inversion of ellipsometric data for an unsupported nonabsorbing uniform layer. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1990, 7, 1875.	0.8	19
44	Airy wavepacket solutions of the Schrödinger equation. <i>European Journal of Physics</i> , 2009, 30, L43-L46.	0.3	19
45	Inversion of reflection ellipsometric data. <i>Applied Optics</i> , 1994, 33, 5159.	2.1	18
46	Anisotropy of the dielectric function within a liquid-vapour interface. <i>Molecular Physics</i> , 1983, 49, 1385-1400.	0.8	17
47	Matrix methods for the calculation of reflection amplitudes. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1987, 4, 2092.	0.8	16
48	Energy and momentum of electromagnetic pulses. <i>Journal of Optics</i> , 2004, 6, 146-147.	1.5	16
49	Reflection of long waves by interfaces. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1982, 112, 544-556.	1.2	15
50	The surface of liquid ^4He , based on the idea that $\psi(r, \theta)$ describes a droplet. <i>Journal of Low Temperature Physics</i> , 1978, 31, 763-784.	0.6	14
51	Variation of the local field through the liquid-vapour interface. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1980, 101, 99-111.	1.2	14
52	Helical light pulses. <i>Journal of Optics</i> , 2004, 6, L29-L32.	1.5	14
53	Topology of phase and polarisation singularities in focal regions. <i>Journal of Optics (United Kingdom)</i> , 2017, 19, 105609.	1.0	14
54	Exact reflection amplitudes for the Rayleigh profile. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1982, 116, 235-247.	1.2	13

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55	Invariant formulation of the reflection of long waves by interfaces. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1984, 128, 229-252.	1.2	13
56	Reflection and transmission ellipsometry of a uniform layer. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1987, 4, 2096.	0.8	13
57	Regions of attraction between like-charged conducting spheres. <i>American Journal of Physics</i> , 2016, 84, 474-477.	0.3	13
58	Electromagnetic pulses, localized and causal. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2018, 474, 20170655.	1.0	13
59	Optical properties of an isotropic layer on a uniaxial crystal substrate. <i>Journal of Physics Condensed Matter</i> , 1992, 4, 6569-6586.	0.7	12
60	Bounds and zeros in reflection and refraction by uniaxial crystals. <i>Journal of Physics Condensed Matter</i> , 1992, 4, 9459-9468.	0.7	12
61	Ellipsometry of anisotropic media. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1993, 10, 1579.	0.8	12
62	Reflection by uniaxial crystals: polarizing angle and Brewster angle. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1999, 16, 2763.	0.8	12
63	Electromagnetic pulses which have a zero momentum frame. <i>Journal of Optics</i> , 2003, 5, L15-L18.	1.5	12
64	Invariants of atom beams. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2004, 37, 1725-1736.	0.6	12
65	Force on a scatterer in counter-propagating coherent beams. <i>Journal of Optics</i> , 2005, 7, 238-248.	1.5	12
66	Matrix methods in reflection and transmission of compressional waves by stratified media. <i>Journal of the Acoustical Society of America</i> , 1990, 87, 2319-2324.	0.5	11
67	Localized electromagnetic pulses with azimuthal dependence. <i>Journal of Optics</i> , 2004, 6, 711-716.	1.5	11
68	Energy and momentum of sound pulses. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006, 363, 217-225.	1.2	11
69	Angular momentum of sound pulses. <i>Journal of Physics Condensed Matter</i> , 2006, 18, 6149-6158.	0.7	11
70	Electrostatic calibration of sphere-sphere forces. <i>Measurement Science and Technology</i> , 2012, 23, 085007.	1.4	11
71	Nonexistence of exact solutions agreeing with the Gaussian beam on the beam axis or in the focal plane. <i>Optics Communications</i> , 2018, 407, 22-26.	1.0	11
72	Extraction of the surface thickness of liquid argon near its triple point from the data of Shih and Uang. <i>Physical Review A</i> , 1979, 20, 621-622.	1.0	10

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73	Reflection and transmission of compressional waves: Some exact results. <i>Journal of the Acoustical Society of America</i> , 1990, 87, 2325-2331.	0.5	10
74	Reflection ellipsometry of uniaxial crystals. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1997, 14, 1359.	0.8	10
75	Invariants of electromagnetic beams. <i>Journal of Optics</i> , 2004, 6, 204-209.	1.5	10
76	Confluent Heun functions and separation of variables in spheroidal coordinates. <i>Journal of Mathematical Physics</i> , 2011, 52, .	0.5	10
77	Electroporation in cancer therapy without insertion of electrodes. <i>Physics in Medicine and Biology</i> , 2014, 59, 6031-6042.	1.6	10
78	Reflection of light by a nonuniform film between like media. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1986, 3, 9.	0.8	9
79	Variational theory of the reflection of light by interfaces. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1986, 3, 16.	0.8	9
80	Angular momentum of electromagnetic pulses. <i>Journal of Optics</i> , 2004, 6, S128-S133.	1.5	9
81	Reflection and non-reflection of particle wavepackets. <i>European Journal of Physics</i> , 2008, 29, 671-679.	0.3	9
82	Polarizability of two conducting spheres. <i>Journal of Electrostatics</i> , 2011, 69, 435-441.	1.0	9
83	Polarizability of two parallel conducting circular cylinders. <i>Journal of Electrostatics</i> , 2013, 71, 910-914.	1.0	9
84	Nonreflecting stratifications. <i>Canadian Journal of Physics</i> , 1990, 68, 738-742.	0.4	8
85	Laminar viscous flow through pipes, related to cross-sectional area and perimeter length. <i>American Journal of Physics</i> , 2019, 87, 791-795.	0.3	8
86	What Goes Up Must Come Down; Will Air Resistance Make It Return Sooner, or Later?. <i>Mathematics Magazine</i> , 1982, 55, 26-28.	0.1	7
87	Reflection at oblique incidence and the existence of a Brewster angle. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1985, 2, 186.	0.8	7
88	Conducting cylinders in an external electric field: Polarizability and field enhancement. <i>Journal of Electrostatics</i> , 2013, 71, 1104-1110.	1.0	7
89	Forces and torque on a pair of uncharged conducting spheres in an external electric field. <i>Journal of Applied Physics</i> , 2013, 114, 224902.	1.1	7
90	Reflection by absorbing periodically stratified media. <i>Journal of Optics (United Kingdom)</i> , 2014, 16, 035104.	1.0	7

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91	Electrostatics of hyperbolic conductors. <i>European Journal of Physics</i> , 2004, 25, 737-744.	0.3	6
92	Comparison of hyperbolic and hyperboloid conductor electrostatics. <i>European Journal of Physics</i> , 2006, 27, 87-94.	0.3	6
93	Quantum bouncer on a spring. <i>European Journal of Physics</i> , 2009, 30, L67-L73.	0.3	6
94	Energy, momentum, and angular momentum of sound pulses. <i>Journal of the Acoustical Society of America</i> , 2017, 142, 3428-3435.	0.5	6
95	Ellipsometry of a thin film between similar media. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1988, 5, 1041.	0.8	5
96	An upper bound on acoustic reflectivity, and the Rayleigh approximation. <i>Journal of the Acoustical Society of America</i> , 1989, 86, 2359-2362.	0.5	5
97	Reflection of neutrons by periodic stratifications. <i>Physica B: Condensed Matter</i> , 1994, 202, 16-22.	1.3	5
98	Properties of a chiral slab waveguide. <i>Journal of Optics</i> , 1997, 6, 373-384.	0.5	5
99	Electrostatics of a family of conducting toroids. <i>European Journal of Physics</i> , 2009, 30, 477-486.	0.3	5
100	Chiral content of electromagnetic pulses. <i>Journal of Optics (United Kingdom)</i> , 2018, 20, 105605.	1.0	5
101	Identities arising from two-cylinder electrostatics. <i>International Journal of Mathematical Analysis</i> , 0, 7, 1411-1417.	0.3	5
102	Multiple principal angles for a homogeneous layer. <i>Journal of Optics</i> , 2000, 2, 239-245.	1.5	4
103	Pattern formation in evanescent wave optical traps. , 2005, , .		4
104	Rotating wavepackets. <i>European Journal of Physics</i> , 2008, 29, 1121-1125.	0.3	4
105	Axisymmetric scattering of scalar waves by spheroids. <i>Journal of the Acoustical Society of America</i> , 2011, 129, 3465-3469.	0.5	4
106	Non-existence of separable spheroidal beams. <i>Journal of Optics (United Kingdom)</i> , 2011, 13, 085701.	1.0	4
107	Construction of accelerating wavepackets. <i>Applied Mathematics and Computation</i> , 2012, 218, 10990-10997.	1.4	4
108	Forces and torque on a pair of uncharged conducting cylinders in an external electric field. <i>Journal of Electrostatics</i> , 2014, 72, 44-46.	1.0	4

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109	Four solutions of a two-cylinder electrostatic problem, and identities resulting from their equivalence. Quarterly Journal of Mechanics and Applied Mathematics, 2020, 73, 251-260.	0.5	4
110	Electrostatics of two charged cylinders. Journal of Electrostatics, 2022, 118, 103721.	1.0	4
111	Reflection and transmission of compressional waves by a stratification with discontinuities in density and/or sound speed. Journal of the Acoustical Society of America, 1990, 88, 2876-2879.	0.5	3
112	The phase relation between reflected and transmitted waves, and some consequences. American Journal of Physics, 1990, 58, 317-320.	0.3	3
113	Neutron reflection interferometry: Extraction of the phase in total reflection from stratified media. Physica B: Condensed Matter, 1995, 215, 329-336.	1.3	3
114	Reply to "Comment on "TM, TE and TEM beam modes: exact solutions and their problems". Journal of Optics, 2002, 4, 219-220.	1.5	3
115	Localized oscillatory acoustic pulses. Journal of Physics Condensed Matter, 2006, 18, 3031-3036.	0.7	3
116	Axially symmetric charge distributions and the arithmetic-geometric mean. Journal of Electrostatics, 2009, 67, 880-885.	1.0	3
117	Constraints on spheroidal beam wavefunctions. Optics Letters, 2010, 35, 3652.	1.7	3
118	Closed-form solution for a pair of touching cylindrical conductors in an external electric field. Journal of Electrostatics, 2014, 72, 342-346.	1.0	3
119	Chirality of self-dual electromagnetic beams. Journal of Optics (United Kingdom), 2019, 21, 035402.	1.0	3
120	Comparison of electromagnetic beams. Optics Communications, 2020, 458, 124844.	1.0	3
121	Focal extent of scalar beams. Journal of Optics (United Kingdom), 2020, 22, 045607.	1.0	3
122	Ellipsometry of surface films on a uniform layer. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1988, 5, 1044.	0.8	2
123	Vortex lines in ^4He clusters. Journal of Physics Condensed Matter, 2000, 12, 4327-4331.	0.7	2
124	Laminar flow through corrugated pipes: comparison of exact and approximate solutions. European Journal of Physics, 2020, 41, 065003.	0.3	2
125	Theory of Electromagnetic Beams. Synthesis Lectures on Engineering Science and Technology, 2020, 2, 1-183.	0.2	2
126	Polarizabilities of intersecting conducting cylinders. Journal of Electrostatics, 2021, 111, 103566.	1.0	2

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127	Exact results. , 1987, , 33-60.		1
128	Inversion of transmission ellipsometric data for transparent films. Applied Optics, 1994, 33, 5108.	2.1	1
129	Forces on scatterers in particle beams. Journal of Physics B: Atomic, Molecular and Optical Physics, 2005, 38, 3849-3856.	0.6	1
130	Reflection of long waves. , 1987, , 61-76.		1
131	Matrix and Numerical Methods. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 281-309.	0.1	1
132	Charged conducting cylinders in contact. Journal of Electrostatics, 2022, 118, 103717.	1.0	1
133	Parseval's integral and the Jacobi expansions in series of Bessel functions. Journal of the Australian Mathematical Society Series B Applied Mathematics, 1986, 27, 370-375.	0.3	0
134	Level curves for the sum of the squares of the normals to an ellipse. Journal of Geometry, 2011, 102, 115-122.	0.1	0
135	Low-reflection region within the stop band of a finite or absorbing periodic multilayer. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2016, 33, 1648.	0.8	0
136	Acoustic Waves. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 419-451.	0.1	0
137	Finite Beams. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 499-527.	0.1	0
138	Chiral Isotropic Media. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 453-475.	0.1	0
139	The birth of radiation. European Journal of Physics, 2019, 40, 025201.	0.3	0
140	Properties of linearly polarized electromagnetic beams. Optics Communications, 2020, 466, 125667.	1.0	0
141	Bicylindrical Coordinates. , 2021, , 1-14.		0
142	Sums and Integrals. , 2021, , 1-14.		0
143	Two Spheres in an External Field. , 2021, , 1-46.		0
144	Bispherical coordinates. , 2021, , 1-12.		0

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145	Two Charged Spheres. , 2021, , 1-40.		0
146	Two Cylinders in an External Field. , 2021, , 1-34.		0
147	Two charged cylinders. , 2021, , 1-24.		0
148	Solitary Finite Cylinder. , 2021, , 1-12.		0
149	Variational theory. , 1987, , 77-92.		0
150	Anisotropy. , 1987, , 141-153.		0
151	Pulses and Wavepackets. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 477-498.	0.1	0
152	Uniaxial Anisotropy. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 191-213.	0.1	0
153	Exact Results. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 41-73.	0.1	0
154	Periodically Stratified Media. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 311-339.	0.1	0
155	Neutron and X-ray Reflection. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 391-417.	0.1	0
156	Simple Anisotropy. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 175-190.	0.1	0
157	Inverse Problems. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 265-280.	0.1	0