John Lekner

List of Publications by Year
in descending order

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	Charged conducting cylinders in contact. Journal of Electrostatics, 2022, 118, 103717.	1.0	1
2	Electrostatics of two charged cylinders. Journal of Electrostatics, 2022, 118, 103721.	1.0	4
3	Bicylindrical Coordinates. , 2021, , 1-14.		0
4	Sums and Integrals. , 2021, , 1-14.		0
5	Two Spheres in an External Field. , 2021, , 1-46.		0
6	Polarizabilities of intersecting conducting cylinders. Journal of Electrostatics, 2021, 111, 103566.	1.0	2
7	Bispherical coordinates. , 2021, , 1-12.		0
8	Two Charged Spheres. , 2021, , 1-40.		0
9	Two Cylinders in an External Field. , 2021, , 1-34.		0
10	Two charged cylinders. , 2021, , 1-24.		0
11	Solitary Finite Cylinder. , 2021, , 1-12.		0
12	Comparison of electromagnetic beams. Optics Communications, 2020, 458, 124844.	1.0	3
13	Laminar flow through corrugated pipes: comparison of exact and approximate solutions. European Journal of Physics, 2020, 41, 065003.	0.3	2
14	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
15	Focal extent of scalar beams. Journal of Optics (United Kingdom), 2020, 22, 045607.	1.0	3
16	Properties of linearly polarized electromagnetic beams. Optics Communications, 2020, 466, 125667.	1.0	0
17	Theory of Electromagnetic Beams. Synthesis Lectures on Engineering Science and Technology, 2020, 2, 1-183.	0.2	2
18	Laminar viscous flow through pipes, related to cross-sectional area and perimeter length. American Journal of Physics, 2019, 87, 791-795.	0.3	8

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19	Chirality of self-dual electromagnetic beams. Journal of Optics (United Kingdom), 2019, 21, 035402.	1.0	3
20	The birth of radiation. European Journal of Physics, 2019, 40, 025201.	0.3	0
21	Electromagnetic pulses, localized and causal. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20170655.	1.0	13
22	Nonexistence of exact solutions agreeing with the Gaussian beam on the beam axis or in the focal plane. Optics Communications, 2018, 407, 22-26.	1.0	11
23	Chiral content of electromagnetic pulses. Journal of Optics (United Kingdom), 2018, 20, 105605.	1.0	5
24	Topology of phase and polarisation singularities in focal regions. Journal of Optics (United Kingdom), 2017, 19, 105609.	1.0	14
25	Energy, momentum, and angular momentum of sound pulses. Journal of the Acoustical Society of America, 2017, 142, 3428-3435.	0.5	6
26	Tight focusing of light beams: a set of exact solutions. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160538.	1.0	21
27	Regions of attraction between like-charged conducting spheres. American Journal of Physics, 2016, 84, 474-477.	0.3	13
28	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
29	Acoustic Waves. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 419-451.	0.1	0
30	Finite Beams. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 499-527.	0.1	0
31	Theory of Reflection. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , .	0.1	96
32	Chiral Isotropic Media. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 453-475.	0.1	0
33	Pulses and Wavepackets. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 477-498.	0.1	0
34	Uniaxial Anisotropy. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 191-213.	0.1	0
35	Exact Results. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 41-73.	0.1	0
36	Periodically Stratified Media. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 311-339.	0.1	0

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37	Neutron and X-ray Reflection. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 391-417.	0.1	0
38	Simple Anisotropy. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 175-190.	0.1	0
39	Matrix and Numerical Methods. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 281-309.	0.1	1
40	Inverse Problems. Springer Series on Atomic, Optical, and Plasma Physics, 2016, , 265-280.	0.1	0
41	Electroporation in cancer therapy without insertion of electrodes. Physics in Medicine and Biology, 2014, 59, 6031-6042.	1.6	10
42	Reflection by absorbing periodically stratified media. Journal of Optics (United Kingdom), 2014, 16, 035104.	1.0	7
43	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
44	Forces and torque on a pair of uncharged conducting cylinders in an external electric field. Journal of Electrostatics, 2014, 72, 44-46.	1.0	4
45	Conducting cylinders in an external electric field: Polarizability and field enhancement. Journal of Electrostatics, 2013, 71, 1104-1110.	1.0	7
46	Polarizability of two parallel conducting circular cylinders. Journal of Electrostatics, 2013, 71, 910-914.	1.0	9
47	Forces and torque on a pair of uncharged conducting spheres in an external electric field. Journal of Applied Physics, 2013, 114, 224902.	1.1	7
48	Electrostatic calibration of sphereâ€“sphere forces. Measurement Science and Technology, 2012, 23, 085007.	1.4	11
49	Construction of accelerating wavepackets. Applied Mathematics and Computation, 2012, 218, 10990-10997.	1.4	4
50	Electrostatic force between two conducting spheres at constant potential difference. Journal of Applied Physics, 2012, 111, 076102.	1.1	28
51	Electrostatics of two charged conducting spheres. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 2829-2848.	1.0	110
52	Axisymmetric scattering of scalar waves by spheroids. Journal of the Acoustical Society of America, 2011, 129, 3465-3469.	0.5	4
53	Near approach of two conducting spheres: Enhancement of external electric field. Journal of Electrostatics, 2011, 69, 559-563.	1.0	25
54	Level curves for the sum of the squares of the normals to an ellipse. Journal of Geometry, 2011, 102, 115-122.	0.1	0

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55	Capacitance coefficients of two spheres. Journal of Electrostatics, 2011, 69, 11-14.	1.0	62
56	Polarizability of two conducting spheres. Journal of Electrostatics, 2011, 69, 435-441.	1.0	9
57	Non-existence of separable spheroidal beams. Journal of Optics (United Kingdom), 2011, 13, 085701.	1.0	4
58	Confluent Heun functions and separation of variables in spheroidal coordinates. Journal of Mathematical Physics, 2011, 52, .	0.5	10
59	Analytical expression for the electric field enhancement between two closely-spaced conducting spheres. Journal of Electrostatics, 2010, 68, 299-304.	1.0	31
60	Constraints on spheroidal beam wavefunctions. Optics Letters, 2010, 35, 3652.	1.7	3
61	Quantum bouncer on a spring. European Journal of Physics, 2009, 30, L67-L73.	0.3	6
62	Axially symmetric charge distributions and the arithmeticâ€“geometric mean. Journal of Electrostatics, 2009, 67, 880-885.	1.0	3
63	Airy wavepacket solutions of the SchrÃ¶dinger equation. European Journal of Physics, 2009, 30, L43-L46.	0.3	19
64	Electrostatics of a family of conducting toroids. European Journal of Physics, 2009, 30, 477-486.	0.3	5
65	Reflection and non-reflection of particle wavepackets. European Journal of Physics, 2008, 29, 671-679.	0.3	9
66	Rotating wavepackets. European Journal of Physics, 2008, 29, 1121-1125.	0.3	4
67	Viscous flow through pipes of various cross-sections. European Journal of Physics, 2007, 28, 521-527.	0.3	39
68	Acoustic beam invariants. Physical Review E, 2007, 75, 036610.	0.8	20
69	Reflectionless eigenstates of the sech2 potential. American Journal of Physics, 2007, 75, 1151-1157.	0.3	110
70	Energy and momentum of sound pulses. Physica A: Statistical Mechanics and Its Applications, 2006, 363, 217-225.	1.2	11
71	Localized oscillatory acoustic pulses. Journal of Physics Condensed Matter, 2006, 18, 3031-3036.	0.7	3
72	Angular momentum of sound pulses. Journal of Physics Condensed Matter, 2006, 18, 6149-6158.	0.7	11

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73	Acoustic beams with angular momentum. Journal of the Acoustical Society of America, 2006, 120, 3475-3478.	0.5	48
74	Comparison of hyperbolic and hyperboloid conductor electrostatics. European Journal of Physics, 2006, 27, 87-94.	0.3	6
75	Pattern formation in evanescent wave optical traps. , 2005, , .		4
76	Force on a scatterer in counter-propagating coherent beams. Journal of Optics, 2005, 7, 238-248.	1.5	12
77	Forces on scatterers in particle beams. Journal of Physics B: Atomic, Molecular and Optical Physics, 2005, 38, 3849-3856.	0.6	1
78	Helical light pulses. Journal of Optics, 2004, 6, L29-L32.	1.5	14
79	Energy and momentum of electromagnetic pulses. Journal of Optics, 2004, 6, 146-147.	1.5	16
80	Invariants of electromagnetic beams. Journal of Optics, 2004, 6, 204-209.	1.5	10
81	Angular momentum of electromagnetic pulses. Journal of Optics, 2004, 6, S128-S133.	1.5	9
82	Localized electromagnetic pulses with azimuthal dependence. Journal of Optics, 2004, 6, 711-716.	1.5	11
83	Invariants of atom beams. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, 1725-1736.	0.6	12
84	Electrostatics of hyperbolic conductors. European Journal of Physics, 2004, 25, 737-744.	0.3	6
85	Invariants of three types of generalized Bessel beams. Journal of Optics, 2004, 6, 837-843.	1.5	26
86	Polarization of tightly focused laser beams. Journal of Optics, 2003, 5, 6-14.	1.5	46
87	Electromagnetic pulses which have a zero momentum frame. Journal of Optics, 2003, 5, L15-L18.	1.5	12
88	Phase and transport velocities in particle and electromagnetic beams. Journal of Optics, 2002, 4, 491-499.	1.5	20
89	Reply to â€˜Comment on â€˜â€˜TM, TE and â€˜TEMâ€™ beam modes: exact solutions and their problemsâ€™â€™ â€™. Journal of Optics, 2002, 4, 219-220.	1.5	3
90	TM, TE and `TEM' beam modes: exact solutions and their problems. Journal of Optics, 2001, 3, 407-412.	1.5	28

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91	Multiple principal angles for a homogeneous layer. Journal of Optics, 2000, 2, 239-245.	1.5	4
92	Vortex lines in4He clusters. Journal of Physics Condensed Matter, 2000, 12, 4327-4331.	0.7	2
93	Omnidirectional reflection by multilayer dielectric mirrors. Journal of Optics, 2000, 2, 349-352.	1.5	65
94	Reflection by uniaxial crystals: polarizing angle and Brewster angle. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1999, 16, 2763.	0.8	12
95	Energetics of hydrogen ordering in ice. Physica B: Condensed Matter, 1998, 252, 149-159.	1.3	40
96	Coulomb Forces and Potentials in Systems with an Orthorhombic Unit Cell. Molecular Simulation, 1998, 20, 357-368.	0.9	23
97	Properties of a chiral slab waveguide. Journal of Optics, 1997, 6, 373-384.	0.5	5
98	Reflection ellipsometry of uniaxial crystals. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1997, 14, 1359.	0.8	10
99	Optical properties of isotropic chiral media. Journal of Optics, 1996, 5, 417-443.	0.5	109
100	Neutron reflection interferometry: Extraction of the phase in total reflection from stratified media. Physica B: Condensed Matter, 1995, 215, 329-336.	1.3	3
101	Reflection of neutrons by periodic stratifications. Physica B: Condensed Matter, 1994, 202, 16-22.	1.3	5
102	Light in periodically stratified media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1994, 11, 2892.	0.8	95
103	Inversion of transmission ellipsometric data for transparent films. Applied Optics, 1994, 33, 5108.	2.1	1
104	Inversion of reflection ellipsometric data. Applied Optics, 1994, 33, 5159.	2.1	18
105	Ellipsometry of anisotropic media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1993, 10, 1579.	0.8	12
106	Brewster angles in reflection by uniaxial crystals. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1993, 10, 2059.	0.8	39
107	Normal-incidence reflection and transmission by uniaxial crystals and crystal plates. Journal of Physics Condensed Matter, 1992, 4, 1387-1398.	0.7	26
108	Optical properties of an isotropic layer on a uniaxial crystal substrate. Journal of Physics Condensed Matter, 1992, 4, 6569-6586.	0.7	12

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109	Bounds and zeros in reflection and refraction by uniaxial crystals. Journal of Physics Condensed Matter, 1992, 4, 9459-9468.	0.7	12
110	Summation of Coulomb fields in computer-simulated disordered systems. Physica A: Statistical Mechanics and Its Applications, 1991, 176, 485-498.	1.2	262
111	Reflection theory and the analysis of neutron reflection data. Physica B: Condensed Matter, 1991, 173, 99-111.	1.3	28
112	Reflection and refraction by uniaxial crystals. Journal of Physics Condensed Matter, 1991, 3, 6121-6133.	0.7	115
113	Matrix methods in reflection and transmission of compressional waves by stratified media. Journal of the Acoustical Society of America, 1990, 87, 2319-2324.	0.5	11
114	Nonreflecting stratifications. Canadian Journal of Physics, 1990, 68, 738-742.	0.4	8
115	Reflection and transmission of compressional waves: Some exact results. Journal of the Acoustical Society of America, 1990, 87, 2325-2331.	0.5	10
116	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
117	The phase relation between reflected and transmitted waves, and some consequences. American Journal of Physics, 1990, 58, 317-320.	0.3	3
118	Analytic inversion of ellipsometric data for an unsupported nonabsorbing uniform layer. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1990, 7, 1875.	0.8	19
119	An upper bound on acoustic reflectivity, and the Rayleigh approximation. Journal of the Acoustical Society of America, 1989, 86, 2359-2362.	0.5	5
120	Summation of dipolar fields in simulated liquid-vapour interfaces. Physica A: Statistical Mechanics and Its Applications, 1989, 157, 826-838.	1.2	91
121	Ellipsometry of a thin film between similar media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1988, 5, 1041.	0.8	5
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	Exact results. , 1987, , 33-60.		1
124	Theory of Reflection of Electromagnetic and Particle Waves. , 1987, , .		163
125	Matrix methods for the calculation of reflection amplitudes. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1987, 4, 2092.	0.8	16
126	Reflection and transmission ellipsometry of a uniform layer. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1987, 4, 2096.	0.8	13

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127	Reflection of long waves. , 1987, , 61-76.		1
128	Variational theory. , 1987, , 77-92.		0
129	Anisotropy. , 1987, , 141-153.		0
130	Reflection of light by a nonuniform film between like media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1986, 3, 9.	0.8	9
131	Variational theory of the reflection of light by interfaces. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1986, 3, 16.	0.8	9
132	Parseval's integral and the Jacobi expansions in series of Bessel fuinctions. Journal of the Australian Mathematical Society Series B Applied Mathematics, 1986, 27, 370-375.	0.3	0
133	Reflection at oblique incidence and the existence of a Brewster angle. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1985, 2, 186.	0.8	7
134	Invariant formulation of the reflection of long waves by interfaces. Physica A: Statistical Mechanics and Its Applications, 1984, 128, 229-252.	1.2	13
135	Anisotropy of the dielectric function within a liquid-vapour interface. Molecular Physics, 1983, 49, 1385-1400.	0.8	17
136	Parametric solution of the van der Waals liquidâ€“vapor coexistence curve. American Journal of Physics, 1982, 50, 161-163.	0.3	22
137	What Goes Up Must Come Down; Will Air Resistance Make It Return Sooner, or Later?. Mathematics Magazine, 1982, 55, 26-28.	0.1	7
138	Reflection of long waves by interfaces. Physica A: Statistical Mechanics and Its Applications, 1982, 112, 544-556.	1.2	15
139	Second-order ellipsometric coefficients. Physica A: Statistical Mechanics and Its Applications, 1982, 113, 506-520.	1.2	22
140	Exact reflection amplitudes for the Rayleigh profile. Physica A: Statistical Mechanics and Its Applications, 1982, 116, 235-247.	1.2	13
141	Local fields near the surface of a crystalline dielectric. Physica A: Statistical Mechanics and Its Applications, 1980, 101, 89-98.	1.2	21
142	Variation of the local field through the liquid-vapour interface. Physica A: Statistical Mechanics and Its Applications, 1980, 101, 99-111.	1.2	14
143	Liquid-vapour coexistence and correlations in the interface. Molecular Physics, 1980, 39, 1437-1443.	0.8	23
144	Extraction of the surface thickness of liquid argon near its triple point from the data of Shih and Uang. Physical Review A, 1979, 20, 621-622.	1.0	10

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145	The surface of liquid 4He, based on the idea that ? i<j f(r ij) describes a droplet. Journal of Low Temperature Physics, 1978, 31, 763-784.	0.6	14
146	Theoretical determination of the thickness of a liquid-vapour interface. Physica A: Statistical Mechanics and Its Applications, 1978, 94, 545-558.	1.2	59
147	Surface oscillations and the surface thickness of classical and quantum droplets. Molecular Physics, 1978, 36, 781-789.	0.8	22
148	Surface tension and energy of a classical liquid-vapour interface. Molecular Physics, 1977, 34, 333-359.	0.8	61
149	Critical binding of diatomic molecules. Molecular Physics, 1972, 23, 619-625.	0.8	32
150	Positive ion mobility in3He-4He mixtures. Journal of Physics C: Solid State Physics, 1970, 3, L127-L130.	1.5	48
151	Mobility of an Impurity in a Fermi Liquid. Physical Review Letters, 1969, 23, 111-113.	2.9	154
152	Drift Velocity and Energy of Electrons in Liquid Argon. Physical Review, 1967, 156, 351-352.	2.7	83
153	Theory of Hot Electrons in Gases, Liquids, and Solids. Physical Review, 1967, 158, 305-309.	2.7	278
154	Motion of Electrons in Liquid Argon. Physical Review, 1967, 158, 130-137.	2.7	304
155	Structure and Resistivity of Liquid Metals. Physical Review, 1966, 145, 83-90.	2.7	1,213
156	On the Equation of State of the Rigidâ€Sphere Fluid. Journal of Chemical Physics, 1965, 42, 3559-3565.	1.2	64
157	Identities arising from two-cylinder electrostatics. International Journal of Mathematical Analysis, 0, 7, 1411-1417.	0.3	5