

Michael Berry

List of Publications by Year in descending order

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106
papers

8,434
citations

117625

34
h-index

49909

87
g-index

119
all docs

119
docs citations

119
times ranked

4862
citing authors

#	ARTICLE	IF	CITATIONS
1	Nonspreading wave packets. <i>American Journal of Physics</i> , 1979, 47, 264-267.	0.7	1,361
2	Semiclassical approximations in wave mechanics. <i>Reports on Progress in Physics</i> , 1972, 35, 315-397.	20.1	1,283
3	Roadmap on structured light. <i>Journal of Optics (United Kingdom)</i> , 2017, 19, 013001.	2.2	888
4	Transitionless quantum driving. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2009, 42, 365303.	2.1	700
5	Optical currents. <i>Journal of Optics</i> , 2009, 11, 094001.	1.5	406
6	Integer, fractional and fractal Talbot effects. <i>Journal of Modern Optics</i> , 1996, 43, 2139-2164.	1.3	335
7	Evolution of quantum superoscillations and optical superresolution without evanescent waves. <i>Journal of Physics A</i> , 2006, 39, 6965-6977.	1.6	330
8	Phase singularities in isotropic random waves. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2000, 456, 2059-2079.	2.1	276
9	Wavefront dislocations in the Aharonov-Bohm effect and its water wave analogue. <i>European Journal of Physics</i> , 1980, 1, 154-162.	0.6	196
10	Umbilic points on Gaussian random surfaces. <i>Journal of Physics A</i> , 1977, 10, 1809-1821.	1.6	189
11	Evanescent and real waves in quantum billiards and Gaussian beams. <i>Journal of Physics A</i> , 1994, 27, L391-L398.	1.6	181
12	Transparent mirrors: rays, waves and localization. <i>European Journal of Physics</i> , 1997, 18, 222-228.	0.6	141
13	Polarization singularities in the clear sky. <i>New Journal of Physics</i> , 2004, 6, 162-162.	2.9	129
14	Roadmap on superoscillations. <i>Journal of Optics (United Kingdom)</i> , 2019, 21, 053002.	2.2	111
15	Focusing and twinkling: critical exponents from catastrophes in non-Gaussian random short waves. <i>Journal of Physics A</i> , 1977, 10, 2061-2081.	1.6	98
16	Topography of random surfaces. <i>Nature</i> , 1978, 273, 573-573.	27.8	98
17	Indistinguishability for quantum particles: spin, statistics and the geometric phase. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 1997, 453, 1771-1790.	2.1	89
18	Making waves in physics. <i>Nature</i> , 2000, 403, 21-21.	27.8	86

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19	Natural superoscillations in monochromatic waves in D dimensions. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 022003.	2.1	85
20	Index formulae for singular lines of polarization. Journal of Optics, 2004, 6, 675-678.	1.5	83
21	Semiclassically weak reflections above analytic and non-analytic potential barriers. Journal of Physics A, 1982, 15, 3693-3704.	1.6	82
22	Stokes' phenomenon; smoothing a victorian discontinuity. Publications Mathematiques De L'Institut Des Hautes Etudes Scientifiques, 1988, 68, 211-221.	4.3	79
23	Quantum backflow, negative kinetic energy, and optical retro-propagation. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 415302.	2.1	73
24	The electric and magnetic polarization singularities of paraxial waves. Journal of Optics, 2004, 6, 475-481.	1.5	62
25	Black plastic sandwiches demonstrating biaxial optical anisotropy. European Journal of Physics, 1999, 20, 1-14.	0.6	48
26	Superweak momentum transfer near optical vortices. Journal of Optics (United Kingdom), 2013, 15, 125701.	2.2	46
27	Tsunami asymptotics. New Journal of Physics, 2005, 7, 129-129.	2.9	41
28	Phase vortex spirals. Journal of Physics A, 2005, 38, L745-L751.	1.6	38
29	The Born-Oppenheimer electric gauge force is repulsive near degeneracies. Journal of Physics A, 1990, 23, L655-L657.	1.6	37
30	Colored diffraction catastrophes.. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 2614-2619.	7.1	37
31	Five momenta. European Journal of Physics, 2013, 34, 1337-1348.	0.6	37
32	Stable and unstable Airy-related caustics and beams. Journal of Optics (United Kingdom), 2017, 19, 055601.	2.2	37
33	Disruption of images: the caustic-touching theorem. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1987, 4, 561.	1.5	36
34	Phase-space projection identities for diffraction catastrophes. Journal of Physics A, 1980, 13, 149-160.	1.6	35
35	Oriental magic mirrors and the Laplacian image. European Journal of Physics, 2006, 27, 109-118.	0.6	34
36	Hamiltonian curl forces. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150002.	2.1	33

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37	Orbit bifurcations and spectral statistics. <i>Journal of Physics A</i> , 1998, 31, L245-L254.	1.6	31
38	Exuberant interference: rainbows, tides, edges, (de)coherence.... <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2002, 360, 1023-1037.	3.4	30
39	Physical curl forces: dipole dynamics near optical vortices. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2013, 46, 422001.	2.1	29
40	Attenuation and focusing of electromagnetic surface waves rounding gentle bends. <i>Journal of Physics A</i> , 1975, 8, 1952-1971.	1.6	26
41	Classical dynamics with curl forces, and motion driven by time-dependent flux. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2012, 45, 305201.	2.1	25
42	Ergodicity in wave-wave diffraction. <i>Journal of Physics A</i> , 1999, 32, 3571-3582.	1.6	24
43	Suppression of superoscillations by noise. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2017, 50, 025003.	2.1	24
44	Superoscillations and supershifts in phase space: Wigner and Husimi function interpretations. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2014, 47, 315203.	2.1	23
45	Curl force dynamics: symmetries, chaos and constants of motion. <i>New Journal of Physics</i> , 2016, 18, 063018.	2.9	23
46	Universal twinkling exponents for spectral fluctuations associated with mixed chaology. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2000, 456, 1659-1668.	2.1	22
47	Minimal analytical model for undular tidal bore profile; quantum and Hawking effect analogies. <i>New Journal of Physics</i> , 2018, 20, 053066.	2.9	21
48	Black polarization sandwiches are square roots of zero. <i>Journal of Optics</i> , 2004, 6, S24-S25.	1.5	19
49	Geometry of 3D monochromatic light: local wavevectors, phases, curl forces, and superoscillations. <i>Journal of Optics (United Kingdom)</i> , 2019, 21, 064002.	2.2	18
50	Measuring the Change in Thickness of the Antarctic Ice Sheet. <i>Nature: Physical Science</i> , 1972, 240, 7-9.	0.8	17
51	Clusters of near-degenerate levels dominate negative moments of spectral determinants. <i>Journal of Physics A</i> , 2002, 35, L1-L6.	1.6	17
52	Universal power-law tails for singularity-dominated strong fluctuations. <i>Journal of Physics A</i> , 1982, 15, 2735-2749.	1.6	16
53	Fake Airy functions and the asymptotics of reflectionlessness. <i>Journal of Physics A</i> , 1990, 23, L243-L246.	1.6	16
54	Superluminal speeds for relativistic random waves. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2012, 45, 185308.	2.1	14

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55	Black-and-white fringes and the colors of caustics. <i>Applied Optics</i> , 1994, 33, 4714.	2.1	12
56	Quantal phase factors accompanying adiabatic changes. , 2017, , 72-84.		12
57	No general relation between phase vortices and orbital angular momentum. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2022, 55, 374001.	2.1	12
58	Raman and the mirage revisited: confusions and a rediscovery. <i>European Journal of Physics</i> , 2013, 34, 1423-1437.	0.6	11
59	Escaping superoscillations. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018, 51, 025205.	2.1	11
60	Superoscillations and leaky spectra. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2019, 52, 015202.	2.1	11
61	Superoscillations and the quantum potential $\langle \sup \rangle$. <i>European Journal of Physics</i> , 2020, 42, 015401.	0.6	11
62	Minimal model for tidal bore revisited. <i>New Journal of Physics</i> , 2019, 21, 073021.	2.9	10
63	Geometric phase curvature for random states. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018, 51, 475101.	2.1	9
64	Exact and approximate energy sums in potential wells. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020, 53, 095203.	2.1	9
65	Looking at coalescing images and poorly resolved caustics. <i>Journal of Optics</i> , 2007, 9, 649-657.	1.5	8
66	Dislocations in wave trains. , 2017, , 6-31.		7
67	Semiclassical quantization of truncated potentials. <i>European Journal of Physics</i> , 2019, 40, 065403.	0.6	6
68	Geometric Phase Curvature Statistics. <i>Journal of Statistical Physics</i> , 2020, 180, 297-303.	1.2	6
69	Quantum metric statistics for random-matrix families. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020, 53, 275202.	2.1	6
70	Approaches to studying our history. <i>Physics Today</i> , 2017, 70, 11-12.	0.3	5
71	Scalings for diffraction-decorated caustics in gravitational lensing. <i>Journal of Optics (United Kingdom)</i> 1 0.784314 10.1088/1751-8751/aa6000	2.2	5
72	On the ubiquity of the sine wave. <i>American Journal of Physics</i> , 1975, 43, 91-91.	0.7	4

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73	Asymptotic dominance by subdominant exponentials. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2004, 460, 2629-2636.	2.1	4
74	Dingle's self-resurgence formula. Nonlinearity, 2017, 30, R25-R31.	1.4	4
75	Inflection reflection: images in mirrors whose curvature changes sign. European Journal of Physics, 2021, 42, 065301.	0.6	4
76	Elementary branching: waves, rays, decoherence. Journal of Optics (United Kingdom), 2020, 22, 115608.	2.2	4
77	Distorted mirror images organised by cuspid and umbilic caustics. Journal of Optics (United Kingdom), 2020, 22, 115608.	2.2	4
78	Pumping a swing revisited: minimal model for parametric resonance via matrix products. European Journal of Physics, 2018, 39, 055007.	0.6	3
79	Superoscillations for monochromatic standing waves. Journal of Physics A: Mathematical and Theoretical, 2020, 53, 225201.	2.1	3
80	Classical and quantum complex Hamiltonian curl forces. Journal of Physics A: Mathematical and Theoretical, 2020, 53, 415201.	2.1	3
81	Surface waves with high angular momentum: leakage from remote caustics, and tightly coiled streamlines. European Journal of Physics, 2018, 39, 045807.	0.6	2
82	Semiclassical superoscillations: interference, evanescence, post-WKB. New Journal of Physics, 2021, 23, 113014.	2.9	2
83	Special Issue on Spin Statistics. Foundations of Physics, 2010, 40, 681-683.	1.3	1
84	A tribute to Marat Soskin. Journal of Optics (United Kingdom), 2021, 23, 050201.	2.2	1
85	The Arcane in the Mundane. , 2008, , 129-129.		1
86	Quantum carpets in leaky boxes. European Journal of Physics, 0, , .	0.6	1
87	Die Farben von Kaustiken: Katastrophen in Regentropfen und Strukturglas. Physik Journal, 1997, 53, 1095-1098.	0.1	0
88	Foreword by Michael Berry. , 0, , vii-x.		0
89	Much ado about rather little. Learned Publishing, 2013, 26, 77-77.	1.7	0
90	A tribute to Frank Olver (1924-2013). Analysis and Applications, 2014, 12, ix-x.	2.2	0

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91	Black plastic sandwiches demonstrating biaxial optical anisotropy. , 2017, , 177-190.		0
92	Black polarization sandwiches are square roots of zero. , 2017, , 191-192.		0
93	Chasing the Silver Dragon. , 2017, , 268-270.		0
94	Wavefront dislocations in the Aharonov-Bohm effect and its water wave analogue. , 2017, , 32-41.		0
95	Indistinguishability for quantum particles: spin, statistics and the geometric phase. , 2017, , 88-107.		0
96	Millennium essay: Making waves in physics. Three wave singularities from the miraculous 1830s. , 2017, , 176-176.		0
97	Review of Journey into Light: Life and Science of C. V. Raman by G. Venkataraman. , 2017, , 546-547.		0
98	Paul Dirac: The purest soul in physics. , 2017, , 556-560.		0
99	A tribute to Frank Olver (1924â€“2013). , 2017, , 580-581.		0
100	Heisenbergâ€™s Sofa. , 2017, , 590-590.		0
101	Review of â€“Understanding the Present: Science and the Soul of Modern Manâ€” by Bryan Appleyard. , 2017, , 622-623.		0
102	Review of â€“Copenhagenâ€” (A play by Michael Frayn). , 2017, , 624-624.		0
103	Integrals whose saddle-point expansions terminate. Journal of Physics A: Mathematical and Theoretical, 2020, 53, 445205.	2.1	0
104	Repeated differentiation suppresses superoscillations. Journal of Physics A: Mathematical and Theoretical, 2020, 53, 475201.	2.1	0
105	Uncertainty inequalities for superoscillations. Journal of Physics A: Mathematical and Theoretical, 0, , .	2.1	0
106	Remembering Fritz Haake. Journal of Physics A: Mathematical and Theoretical, 0, , .	2.1	0