Michael D Collins

List of Publications by Year
in descending order

106 papers	3,752 citations	172457 29 h-index	133252 59 g-index
112 all docs	112 docs citations	112 times ranked	705 citing authors

#	Article	IF	Citations
1	A split‐step Padé solution for the parabolic equation method. Journal of the Acoustical Society of America, 1993, 93, 1736-1742.	1.1	674
2	Focalization: Environmental focusing and source localization. Journal of the Acoustical Society of America, 1991, 90, 1410-1422.	1.1	221
3	A higher-order energy-conserving parabolic equqation for range-dependent ocean depth, sound speed, and density. Journal of the Acoustical Society of America, 1991, 89, 1068-1075.	1.1	212
4	Nonlinear inversion for ocean‐bottom properties. Journal of the Acoustical Society of America, 1992, 92, 2770-2783.	1.1	209
5	A higher‐order parabolic equation for wave propagation in an ocean overlying an elastic bottom. Journal of the Acoustical Society of America, 1989, 86, 1459-1464.	1.1	145
6	Higher-order Padé approximations for accurate and stable elastic parabolic equations with application to interface wave propagation. Journal of the Acoustical Society of America, 1991, 89, 1050-1057.	1.1	135
7	A two‐way parabolic equation for acoustic backscattering in the ocean. Journal of the Acoustical Society of America, 1992, 91, 1357-1368.	1.1	132
8	Applications and time‐domain solution of higher‐order parabolic equations in underwater acoustics. Journal of the Acoustical Society of America, 1989, 86, 1097-1102.	1.1	127
9	Generalization of the split‐step Padé solution. Journal of the Acoustical Society of America, 1994, 96, 382-385.	1.1	114
10	The adiabatic mode parabolic equation. Journal of the Acoustical Society of America, 1993, 94, 2269-2278.	1.1	85
11	An energy‐conserving parabolic equation for elastic media. Journal of the Acoustical Society of America, 1993, 94, 975-982.	1.1	80
12	A self‐starter for the parabolic equation method. Journal of the Acoustical Society of America, 1992, 92, 2069-2074.	1.1	77
13	Efficient navigation of parameter landscapes. Journal of the Acoustical Society of America, 1995, 98, 1637-1644.	1.1	74
14	Benchmark calculations for higher‐order parabolic equations. Journal of the Acoustical Society of America, 1990, 87, 1535-1538.	1.1	58
15	A three‐dimensional parabolic equation model that includes the effects of rough boundaries. Journal of the Acoustical Society of America, 1990, 87, 1104-1109.	1.1	58
16	Comparison of algorithms for solving parabolic wave equations. Journal of the Acoustical Society of America, 1996, 100, 178-182.	1.1	58
17	Optimal time‐domain beamforming with simulated annealing including application of a priori information. Journal of the Acoustical Society of America, 1990, 88, 1802-1810.	1.1	55
18	The rotated parabolic equation and sloping ocean bottoms. Journal of the Acoustical Society of America, 1990, 87, 1035-1037.	1.1	55

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19	Modeling Rayleigh and Stoneley waves and other interface and boundary effects with the parabolic equation. Journal of the Acoustical Society of America, 2005, 117, 3497-3503.	1.1	51
20	The coupled mode parabolic equation. Journal of the Acoustical Society of America, 1997, 102, 233-238.	1.1	46
21	The time—domain solution of the wide—angle parabolic equation including the effects of sediment dispersion. Journal of the Acoustical Society of America, 1988, 84, 2114-2125.	1.1	45
22	A two—way parabolic equation for elastic media. Journal of the Acoustical Society of America, 1993, 93, 1815-1825.	1.1	43
23	A wide angle and high Mach number parabolic equation. Journal of the Acoustical Society of America, 2002, 111, 729-734.	1.1	42
24	Parabolic equation solution of seismo-acoustics problems involving variations in bathymetry and sediment thickness. Journal of the Acoustical Society of America, 2008, 123, 51-55.	1.1	40
25	Parabolic equations for gravity and acousto-gravity waves. Journal of the Acoustical Society of America, 1999, 105, 3049-3056.	1.1	38
26	Comparison of data and model predictions for Heard Island acoustic transmissions. Journal of the Acoustical Society of America, 1994, 96, 2357-2370.	1.1	37
27	The stabilized self-starter. Journal of the Acoustical Society of America, 1999, 106, 1724-1726.	1.1	33
28	Generalization of the rotated parabolic equation to variable slopes. Journal of the Acoustical Society of America, 2006, 120, 3534-3538.	1.1	33
29	A parabolic equation for poro—elastic media. Journal of the Acoustical Society of America, 1995, 98, 1645-1656.	1.1	31
30	Three—dimensional effects in global acoustics. Journal of the Acoustical Society of America, 1995, 97, 1567-1575.	1.1	28
31	A mapping approach for handling sloping interfaces. Journal of the Acoustical Society of America, 2000, 107, 1937-1942.	1.1	27
32	A two-way parabolic equation that accounts for multiple scattering. Journal of the Acoustical Society of America, 2002, 112, 476-480.	1.1	27
33	Jovian acoustics and Comet Shoemaker—Levy 9. Journal of the Acoustical Society of America, 1995, 97, 2147-2158.	1.1	26
34	A single-scattering correction for the seismo-acoustic parabolic equation. Journal of the Acoustical Society of America, 2012, 131, 2638-2642.	1.1	25
35	A parabolic equation model for scattering in the ocean. Journal of the Acoustical Society of America, 1989, 85, 1895-1902.	1.1	23
36	Wave propagation in range-dependent poro-acoustic waveguides. Journal of the Acoustical Society of America, 1998, 104, 783-790.	1.1	22

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37	A complete energy conservation correction for the elastic parabolic equation. Journal of the Acoustical Society of America, 1999, 105, 687-692.	1.1	22
38	A parabolic equation for anisotropic elastic media. Wave Motion, 2000, 31, 139-146.	2.0	22
39	Two-way parabolic equation techniques for diffraction and scattering problems. Wave Motion, 2000, 31, 173-180.	2.0	21
40	Matched-field processing using measured replica fields. Journal of the Acoustical Society of America, 2000, 107, 739-746.	1.1	21
41	A nearfield asymptotic analysis for underwater acoustics. Journal of the Acoustical Society of America, 1989, 85, 1107-1114.	1.1	19
42	The multivalued Bartlett processor and source tracking. Journal of the Acoustical Society of America, 1995, 97, 235-241.	1.1	19
43	Treatment of ice cover and other thin elastic layers with the parabolic equation method. Journal of the Acoustical Society of America, 2015, 137, 1557-1563.	1.1	19
44	Beach acoustics. Journal of the Acoustical Society of America, 1995, 97, 2767-2770.	1.1	18
45	Source localization in noisy and uncertain ocean environments. Journal of the Acoustical Society of America, 1997, 101, 3539-3545.	1.1	18
46	Matched-field source tracking by ambiguity surface averaging. Journal of the Acoustical Society of America, 2001, 110, 739-746.	1.1	17
47	Treatment of a sloping fluid-solid interface and sediment layering with the seismo-acoustic parabolic equation. Journal of the Acoustical Society of America, 2015, 137, 492-497.	1.1	17
48	Noise cancellation and source localization. Journal of the Acoustical Society of America, 1994, 96, 1773-1776.	1.1	16
49	Wave propagation in poro-acoustic media. Wave Motion, 1997, 25, 265-272.	2.0	16
50	Nonuniform depth grids in parabolic equation solutions. Journal of the Acoustical Society of America, 2013, 133, 1953-1958.	1.1	16
51	Acoustic recordings and modeling under seasonally varying sea ice. Scientific Reports, 2019, 9, 8323.	3.3	16
52	A single-scattering correction for large contrasts in elastic layers. Journal of the Acoustical Society of America, 2007, 121, 808-813.	1.1	15
53	Environmental source tracking. Journal of the Acoustical Society of America, 1993, 94, 3335-3341.	1.1	14
54	Comparison of simulations and data from a seismo-acoustic tank experiment. Journal of the Acoustical Society of America, 2007, 122, 1987-1993.	1.1	14

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55	Video evidence and other information relevant to the conservation of the Ivory-billed Woodpecker () Tj ETQq1 1 0.784314 rgBT /Over	3.2	14
56	Source localization in the presence of gross sediment uncertainties. Journal of the Acoustical Society of America, 2006, 120, 870-874.	1.1	13
57	Overcoming ray chaos. Journal of the Acoustical Society of America, 1994, 95, 3167-3170.	1.1	11
58	Putative audio recordings of the Ivory-billed Woodpecker (*Campephilus principalis*). Journal of the Acoustical Society of America, 2011, 129, 1626-1630.	1.1	11
59	An energy-conserving spectral solution. Journal of the Acoustical Society of America, 2000, 107, 1964-1966.	1.1	10
60	Scholte-to-Rayleigh Conversion and Other Effects in Range-Dependent Elastic Media. IEEE Journal of Oceanic Engineering, 2007, 32, 620-625.	3.8	10
61	The spectral parabolic equation and three-dimensional backscattering. Journal of the Acoustical Society of America, 1994, 96, 1725-1731.	1.1	9
62	Extension of the Rotated Elastic Parabolic Equation to Beach and Island Propagation. IEEE Journal of Oceanic Engineering, 2009, 34, 617-623.	3.8	9
63	Applications of optimal time-domain beamforming. Journal of the Acoustical Society of America, 1993, 93, 1851-1865.	1.1	8
64	An efficient parabolic equation solution based on the method of undetermined coefficients. Journal of the Acoustical Society of America, 1999, 106, 1727-1731.	1.1	8
65	Seismo-Acoustic Benchmark Problems Involving Sloping Fluid–Solid Interfaces. Journal of Computational Acoustics, 2016, 24, 1650022.	1.0	8
66	Using a Drone to Search for the Ivory-Billed Woodpecker (Campephilus principalis). Drones, 2018, 2, 11.	4.9	8
67	Source localization in the presence of internal waves. Journal of the Acoustical Society of America, 2005, 118, 3117-3121.	1.1	7
68	Seismo-Acoustic Benchmark Problems Involving Sloping Solid–Solid Interfaces and Variable Topography. Journal of Computational Acoustics, 2016, 24, 1650019.	1.0	7
69	Nonlinear wide-angle paraxial acoustic propagation in shallow-water channels. Journal of the Acoustical Society of America, 1997, 102, 224-232.	1.1	6
70	Estimating elastic sediment properties with the self-starter. Wave Motion, 2000, 31, 157-163.	2.0	6
71	Periodic and transient motions of large woodpeckers. Scientific Reports, 2017, 7, 12551.	3.3	6
72	Parabolic Equation Techniques for Seismology, Seismo-Acoustics, and Arctic Acoustics. Journal of Theoretical and Computational Acoustics, 2021, 29, 2130003.	1.1	6

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73	Nonlinear pulse propagation in shallow-water environments with attenuating and dispersive sediments. Journal of the Acoustical Society of America, 1998, 104, 1356-1362.	1.1	5
74	Statistics, Probability, and a Failed Conservation Policy. Statistics and Public Policy (Philadelphia, Pa), 2019, 6, 67-79.	1.6	5
75	Application of image processing to evidence for the persistence of the Ivory-billed Woodpecker (Campephilus principalis). Scientific Reports, 2020, 10, 14616.	3.3	5
76	Jovian acoustic matched-field processing. Journal of the Acoustical Society of America, 1997, 102, 2487-2493.	1.1	4
77	Experimental testing of the variable rotated elastic parabolic equation. Journal of the Acoustical Society of America, 2011, 130, 2681-2686.	1.1	4
78	Applications of a Motion Compensation Stabilized Vertical Array of Hydrophones. IEEE Access, 2019, 7, 79433-79437.	4.2	4
79	The Role of Acoustics in the Conservation of the Ivory-Billed Woodpecker (<i>Campephilus) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T	1.1	4
80	Rational operators for filtering. Journal of the Acoustical Society of America, 1997, 101, 2518-2523.	1.1	3
81	Parabolic equation modeling of azimuthally advected gravity waves. Wave Motion, 2000, 31, 131-138.	2.0	3
82	Experimental testing of the noise-canceling processor. Journal of the Acoustical Society of America, 2011, 130, 1217-1221.	1.1	3
83	Single-scattering parabolic equation solutions for elastic media propagation, including Rayleigh waves. Journal of the Acoustical Society of America, 2012, 131, 1131-1137.	1.1	3
84	Two parabolic equations for propagation in layered poro-elastic media. Journal of the Acoustical Society of America, 2013, 134, 246-256.	1.1	3
85	Fast and Accurate Seismic Computations in Laterally Varying Environments. IEEE Access, 2021, 9, 103258-103265.	4.2	3
86	Parabolic Equation Modeling of Scholte Waves and Other Effects Along Sloping Fluid-Solid Interfaces. Journal of Theoretical and Computational Acoustics, 2021, 29, 2050025.	1.1	3
87	Wave-number sampling at short range. Journal of the Acoustical Society of America, 1999, 106, 2535-2539.	1.1	2
88	Range-Dependent Seismo-Acoustic Propagation in the Marginal Ice Zone. Journal of Theoretical and Computational Acoustics, 2018, 26, 1850013.	1.1	2
89	Multi-Valued Eigen-Processing for Isolating Multiple Sources With a Rectangular Array. IEEE Access, 2021, 9, 8990-8996.	4.2	2
90	Topics in Ocean Acoustic Inverse Problems. The IMA Volumes in Mathematics and Its Applications, 1997, , 85-104.	0.5	2

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91	Treatment of Variable Topography With the Seismoacoustic Parabolic Equation. IEEE Journal of Oceanic Engineering, 2017, 42, 488-493.	3.8	1
92	Additional Applications. , 2019, , 107-132.		1
93	Experimental Confirmation of Focalization. Modern Approaches in Geophysics, 1995, , 153-158.	0.1	1
94	Propagation and Inversion in Complex Ocean Environments. Modern Approaches in Geophysics, 1995, , 15-20.	0.1	1
95	Three-Dimensional Sound Propagation in an Ocean Overlying an Elastic Bottom. Modern Approaches in Geophysics, 1995, , 69-75.	0.1	1
96	Localizing Submerged Acoustic Sources Under Adverse Conditions. Journal of Theoretical and Computational Acoustics, 2022, 30, .	1.1	1
97	A Science Scandal that Culminated in Declaring the Ivory-billed Woodpecker (<i>Campephilus) Tj ETQq1 1 0.784314 rgBT /Overlock 10	1.1	1
98	A matched-asymptotic model for acoustic propagation in an ocean with a rough surface. Mathematical and Computer Modelling, 1990, 14, 761-764.	2.0	0
99	Response to â€˜â€˜Comments on â€˜Overcoming ray chaosâ€™â€‰â€™â€™ [J. Acoust. Soc. Am. 100, 1234â€“1239 (1996)]. Journal of the Acoustical Society of America, 1996, 100, 1240-1241.	1.1	0
100	Parabolic Equation Techniques for Seismic Waves. , 2002, , 1681-1689.		0
101	Parabolic Equation Techniques for Range-Dependent Seismo-Acoustics. AIP Conference Proceedings, 2006, , .	0.4	0
102	Range-Dependent Seismo-Acoustic Propagation in the Marginal Ice Zone. Journal of Computational Acoustics, 0, , 1850013.	1.0	0
103	The Fourier Engine. IEEE Access, 2018, 6, 75048-75051.	4.2	0
104	PARABOLIC EQUATION TECHNIQUES FOR PROPAGATION AND SCATTERING. , 2004, , .		0
105	Seismology and Seismo-Acoustics. , 2019, , 73-105.		0
106	Parabolic Equation Techniques. , 2019, , 25-71.		0