Sheehan Olver

List of Publications by Year
in descending order

47 papers	1,152 citations	430874 18 h-index	414414 32 g-index
50 all docs	50 docs citations	50 times ranked	432 citing authors

#	Article	IF	Citations
1	Moment-free numerical integration of highly oscillatory functions. IMA Journal of Numerical Analysis, 2006, 26, 213-227.	2.9	151
2	A Fast and Well-Conditioned Spectral Method. SIAM Review, 2013, 55, 462-489.	9.5	147
3	Numerical approximation of vector-valued highly oscillatory integrals. BIT Numerical Mathematics, 2007, 47, 637-655.	2.0	47
4	Moment-free numerical approximation of highly oscillatory integrals with stationary points. European Journal of Applied Mathematics, 2007, 18, 435-447.	2.9	44
5	A general framework for solving Riemann–Hilbert problems numerically. Numerische Mathematik, 2012, 122, 305-340.	1.9	44
6	The automatic solution of partial differential equations using a global spectral method. Journal of Computational Physics, 2015, 299, 106-123.	3.8	44
7	Numerical inverse scattering for the Korteweg–de Vries and modified Korteweg–de Vries equations. Physica D: Nonlinear Phenomena, 2012, 241, 1003-1025.	2.8	41
8	Fast, numerically stable computation of oscillatory integrals with stationary points. BIT Numerical Mathematics, 2010, 50, 149-171.	2.0	40
9	Numerical methods for the computation of the confluent and Gauss hypergeometric functions. Numerical Algorithms, 2017, 74, 821-866.	1.9	40
10	Fast polynomial transforms based on Toeplitz and Hankel matrices. Mathematics of Computation, 2018, 87, 1913-1934.	2.1	35
11	On the Quadrature of Multivariate Highly Oscillatory Integrals Over Non-polytope Domains. Numerische Mathematik, 2006, 103, 643-665.	1.9	34
12	Computing the Hilbert transform and its inverse. Mathematics of Computation, 2011, 80, 1745-1767.	2.1	34
13	Numerical Solution of Riemann–Hilbert Problems: Painlevé II. Foundations of Computational Mathematics, 2011, 11, 153-179.	2.5	33
14	Tensor calculus in polar coordinates using Jacobi polynomials. Journal of Computational Physics, 2016, 325, 53-73.	3.8	28
15	Superinterpolation in Highly Oscillatory Quadrature. Foundations of Computational Mathematics, 2012, 12, 203-228.	2.5	26
16	Nonlinear Steepest Descent and Numerical Solution of Riemann–Hilbert Problems. Communications on Pure and Applied Mathematics, 2014, 67, 1353-1389.	3.1	23
17	Universality in numerical computations with random data. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14973-14978.	7.1	21
18	A fast and well-conditioned spectral method for singular integral equations. Journal of Computational Physics, 2017, 332, 290-315.	3.8	21

#	Article	IF	Citations
19	A Practical Framework for Infinite-Dimensional Linear Algebra. , 2014, , .		20
20	GMRES for the Differentiation Operator. SIAM Journal on Numerical Analysis, 2009, 47, 3359-3373.	2.3	19
21	Numerical inverse scattering for the focusing and defocusing nonlinear Schrödinger equations. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2013, 469, 20120330.	2.1	19
22	Fast algorithms using orthogonal polynomials. Acta Numerica, 2020, 29, 573-699.	10.7	19
23	On the convergence rate of a modified Fourier series. Mathematics of Computation, 2009, 78, 1629-1645.	2.1	18
24	Shifted GMRES for oscillatory integrals. Numerische Mathematik, 2010, 114, 607-628.	1.9	18
25	Computation of equilibrium measures. Journal of Approximation Theory, 2011, 163, 1185-1207.	0.8	14
26	Numerical Solution of Riemann–Hilbert Problems: Random Matrix Theory and Orthogonal Polynomials. Constructive Approximation, 2014, 39, 101-149.	3.0	14
27	A Fast and Spectrally Convergent Algorithm for Rational-Order Fractional Integral and Differential Equations. SIAM Journal of Scientific Computing, 2018, 40, A2456-A2491.	2.8	14
28	A Sparse Spectral Method on Triangles. SIAM Journal of Scientific Computing, 2019, 41, A3728-A3756.	2.8	13
29	Orthogonal polynomials in and on a quadratic surface of revolution. Mathematics of Computation, 2020, 89, 2847-2865.	2.1	12
30	Orthogonal structure on a quadratic curve. IMA Journal of Numerical Analysis, 2021, 41, 206-246.	2.9	12
31	Spectra of Jacobi Operators via Connection Coefficient Matrices. Communications in Mathematical Physics, 2021, 382, 657-707.	2.2	11
32	Orthogonal Structure on a Wedge and on the Boundary of a Square. Foundations of Computational Mathematics, 2019, 19, 561-589.	2.5	10
33	Sparse spectral and ﬁnite element methods for partial differential equations on disk slices and trapeziums. Studies in Applied Mathematics, 2020, 145, 3-35.	2.4	10
34	Computing equilibrium measures with power law kernels. , 0, , .		7
35	Change of variable formulas for regularizing slowly decaying and oscillatory Cauchy and Hilbert transforms. Analysis and Applications, 2014, 12, 369-384.	2.2	6
36	Sampling unitary ensembles. Random Matrices: Theory and Application, 2015, 04, 1550002.	1.1	6

#	ARTICLE	IF	CITATIONS
37	On The Use of Conformal Maps for the Acceleration of Convergence of the Trapezoidal Rule and Sinc Numerical Methods. SIAM Journal of Scientific Computing, 2015, 37, A676-A700.	2.8	6
38	Fast computation of Gauss quadrature nodes and weights on the whole real line. IMA Journal of Numerical Analysis, 0, , drv002.	2.9	5
39	A Sparse Spectral Method for Volterra Integral Equations Using Orthogonal Polynomials on the Triangle. SIAM Journal on Numerical Analysis, 2020, 58, 1993-2018.	2.3	5
40	Orthogonal Polynomials on Planar Cubic Curves. Foundations of Computational Mathematics, 2023, 23, 1-31.	2.5	5
41	Recurrence Relations for a Family of Orthogonal Polynomials on a Triangle. Lecture Notes in Computational Science and Engineering, 2020, , 79-92.	0.3	4
42	Non-homogeneous wave equation on a cone. Integral Transforms and Special Functions, 2021, 32, 604-619.	1.2	2
43	Evidence of the Poisson/Gaudin–Mehta phase transition for band matrices on global scales. Random Matrices: Theory and Application, 2018, 07, 1850002.	1.1	1
44	A Riemann–Hilbert approach to Jacobi operators and Gaussian quadrature. IMA Journal of Numerical Analysis, 2015, , dru061.	2.9	0
45	Levin Quadrature. , 2015, , 785-786.		0
46	Numerical Methods for the Discrete Map $$Z^a$$ Z a. , 2016, , 151-176.		0
47	Sparse spectral methods for partial differential equations on spherical caps. Transactions of Mathematics and Its Applications, 2021, 5, .	3.3	0