

Javier Segura

List of Publications by Year in descending order

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111
papers

1,536
citations

393982

19
h-index

500791

28
g-index

115
all docs

115
docs citations

115
times ranked

898
citing authors

#	ARTICLE	IF	CITATIONS
1	Bounds for ratios of modified Bessel functions and associated Turán-type inequalities. <i>Journal of Mathematical Analysis and Applications</i> , 2011, 374, 516-528.	0.5	87
2	Engineering pancreatic islets. <i>Pflugers Archiv European Journal of Physiology</i> , 2000, 440, 1-18.	1.3	51
3	Monte Carlo Simulation of 3-D Buffered Ca ²⁺ Diffusions in Neuroendocrine Cells. <i>Biophysical Journal</i> , 2000, 78, 13-33.	0.2	45
4	Modeling Study of Exocytosis in Neuroendocrine Cells: Influence of the Geometrical Parameters. <i>Biophysical Journal</i> , 2000, 79, 1771-1786.	0.2	43
5	A code to evaluate prolate and oblate spheroidal harmonics. <i>Computer Physics Communications</i> , 1998, 108, 267-278.	3.0	38
6	The F-actin cortical network is a major factor influencing the organization of the secretory machinery in chromaffin cells. <i>Journal of Cell Science</i> , 2011, 124, 727-734.	1.2	38
7	New inequalities from classical Sturm theorems. <i>Journal of Approximation Theory</i> , 2004, 131, 208-230.	0.5	36
8	Evaluation of the Modified Bessel Function of the Third Kind of Imaginary Orders. <i>Journal of Computational Physics</i> , 2002, 175, 398-411.	1.9	33
9	Evaluation of toroidal harmonics. <i>Computer Physics Communications</i> , 2000, 124, 104-122.	3.0	32
10	Efficient and Accurate Algorithms for the Computation and Inversion of the Incomplete Gamma Function Ratios. <i>SIAM Journal of Scientific Computing</i> , 2012, 34, A2965-A2981.	1.3	30
11	On nonoscillating integrals for computing inhomogeneous Airy functions. <i>Mathematics of Computation</i> , 2000, 70, 1183-1195.	1.1	26
12	Algorithm 969. <i>ACM Transactions on Mathematical Software</i> , 2017, 43, 1-9.	1.6	25
13	The Zeros of Special Functions from a Fixed Point Method. <i>SIAM Journal on Numerical Analysis</i> , 2002, 40, 114-133.	1.1	24
14	Algorithm 819: AIZ, BIZ. <i>ACM Transactions on Mathematical Software</i> , 2002, 28, 325-336.	1.6	23
15	Computing solutions of the modified Bessel differential equation for imaginary orders and positive arguments. <i>ACM Transactions on Mathematical Software</i> , 2004, 30, 145-158.	1.6	21
16	Numerically satisfactory solutions of hypergeometric recursions. <i>Mathematics of Computation</i> , 2007, 76, 1449-1469.	1.1	21
17	Computing Complex Airy Functions by Numerical Quadrature. <i>Numerical Algorithms</i> , 2002, 30, 11-23.	1.1	20
18	On the zeros and turning points of special functions. <i>Journal of Computational and Applied Mathematics</i> , 2003, 153, 433-440.	1.1	20

#	ARTICLE	IF	CITATIONS
19	Algorithm 831. ACM Transactions on Mathematical Software, 2004, 30, 159-164.	1.6	20
20	Computing the real parabolic cylinder functions $U(a, x)$, $V(a, x)$. ACM Transactions on Mathematical Software, 2006, 32, 70-101.	1.6	19
21	The Asymptotic and Numerical Inversion of the Marcum Q -Function. Studies in Applied Mathematics, 2014, 133, 257-278.	1.1	19
22	A new type of sharp bounds for ratios of modified Bessel functions. Journal of Mathematical Analysis and Applications, 2016, 443, 1232-1246.	0.5	19
23	The ABC of hyper recursions. Journal of Computational and Applied Mathematics, 2006, 190, 270-286.	1.1	17
24	The organization of the secretory machinery in chromaffin cells as a major factor in modeling exocytosis. HFSP Journal, 2010, 4, 85-92.	2.5	17
25	Computing Toroidal Functions for Wide Ranges of the Parameters. Journal of Computational Physics, 2000, 161, 204-217.	1.9	16
26	Algorithm 939. ACM Transactions on Mathematical Software, 2014, 40, 1-21.	1.6	16
27	Computation of the modified Bessel function of the third kind of imaginary orders: uniform Airy-type asymptotic expansion. Journal of Computational and Applied Mathematics, 2003, 153, 225-234.	1.1	15
28	Association of SNAREs and Calcium Channels with the Borders of Cytoskeletal Cages Organizes the Secretory Machinery in Chromaffin Cells. Cellular and Molecular Neurobiology, 2010, 30, 1315-1319.	1.7	15
29	Dynamical zeros in neutrino-electron elastic scattering at leading order. Physical Review D, 1994, 49, 1633-1636.	1.6	13
30	Parabolic cylinder functions of integer and half-integer orders for nonnegative arguments. Computer Physics Communications, 1998, 115, 69-86.	3.0	13
31	Computing the Zeros and Turning Points of Solutions of Second Order Homogeneous Linear ODEs. SIAM Journal on Numerical Analysis, 2003, 41, 827-855.	1.1	13
32	Computing the Conical Function $P_{-1/2+ia}^{\mu}(x)$. SIAM Journal of Scientific Computing, 2009, 31, 1716-1741.	1.3	13
33	A new Fortran 90 program to compute regular and irregular associated Legendre functions. Computer Physics Communications, 2010, 181, 2091-2097.	3.0	13
34	Reliable Computation of the Zeros of Solutions of Second Order Linear ODEs Using a Fourth Order Method. SIAM Journal on Numerical Analysis, 2010, 48, 452-469.	1.1	13
35	Evaluation of legendre functions of argument greater than one. Computer Physics Communications, 1997, 105, 273-283.	3.0	12
36	Bounds on differences of adjacent zeros of Bessel functions and iterative relations between consecutive zeros. Mathematics of Computation, 2000, 70, 1205-1221.	1.1	12

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37	Interlacing of the zeros of contiguous hypergeometric functions. Numerical Algorithms, 2008, 49, 387-407.	1.1	12
38	Fast and accurate computation of the Weber parabolic cylinder function $W(a, x)$. IMA Journal of Numerical Analysis, 2011, 31, 1194-1216.	1.5	12
39	Computation of Asymptotic Expansions of Turning Point Problems via Cauchy's Integral Formula: Bessel Functions. Constructive Approximation, 2017, 46, 645-675.	1.8	12
40	Efficient computation of Laguerre polynomials. Computer Physics Communications, 2017, 210, 124-131.	3.0	12
41	A code to evaluate modified bessel functions based on the continued fraction method. Computer Physics Communications, 1997, 105, 263-272.	3.0	11
42	ELF and GNOME: Two tiny codes to evaluate the real zeros of the Bessel functions of the first kind for real orders. Computer Physics Communications, 1999, 117, 250-262.	3.0	11
43	Computing Special Functions by Using Quadrature Rules. Numerical Algorithms, 2003, 33, 265-275.	1.1	11
44	Computing the Real Zeros of Hypergeometric Functions. Numerical Algorithms, 2004, 36, 113-134.	1.1	11
45	Transitory minimal solutions of hypergeometric recursions and pseudoconvergence of associated continued fractions. Mathematics of Computation, 2007, 76, 879-901.	1.1	11
46	GammaCHI: A package for the inversion and computation of the gamma and chi-square cumulative distribution functions (central and noncentral). Computer Physics Communications, 2015, 191, 132-139.	3.0	11
47	A global Newton method for the zeros of cylinder functions. Numerical Algorithms, 1998, 18, 259-276.	1.1	10
48	Neutrino magnetic moments and low-energy solar neutrino-electron scattering experiments. Physical Review D, 1998, 59, .	1.6	10
49	CA3D: A Monte Carlo code to simulate 3D buffered diffusion of ions in sub-membrane domains. Computer Physics Communications, 2001, 136, 269-293.	3.0	10
50	Asymptotic Approximations to the Nodes and Weights of Gauss-Hermite and Gauss-Laguerre Quadratures. Studies in Applied Mathematics, 2018, 140, 298-332.	1.1	10
51	Neutrino magnetic moment and the process $\hat{1}/2e \hat{a}^+ \hat{1}/2e \hat{1}^3$. Nuclear Physics B, 1994, 426, 434-456.	0.9	9
52	Algorithm 822: GIZ, HIZ. ACM Transactions on Mathematical Software, 2002, 28, 436-447.	1.6	9
53	Numerically satisfactory solutions of Kummer recurrence relations. Numerische Mathematik, 2008, 111, 109-119.	0.9	9
54	Sharp bounds for cumulative distribution functions. Journal of Mathematical Analysis and Applications, 2016, 436, 748-763.	0.5	9

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55	Noniterative Computation of Gauss–Jacobi Quadrature. <i>SIAM Journal of Scientific Computing</i> , 2019, 41, A668-A693.	1.3	9
56	Integral representations for computing real parabolic cylinder functions. <i>Numerische Mathematik</i> , 2004, 98, 105-134.	0.9	8
57	Algorithm 850. <i>ACM Transactions on Mathematical Software</i> , 2006, 32, 102-112.	1.6	8
58	An improved algorithm and a Fortran 90 module for computing the conical function. <i>Computer Physics Communications</i> , 2012, 183, 794-799.	3.0	8
59	Identifying minimal and dominant solutions for Kummer recursions. <i>Mathematics of Computation</i> , 2008, 77, 2277-2293.	1.1	8
60	On bounds for solutions of monotonic first order difference-differential systems. <i>Journal of Inequalities and Applications</i> , 2012, 2012, .	0.5	7
61	Simplified error bounds for turning point expansions. <i>Analysis and Applications</i> , 2021, 19, 647-678.	1.2	7
62	A potential test of the CP properties and Majorana nature of neutrinos. <i>Nuclear Physics B</i> , 2000, 566, 92-102.	0.9	6
63	Global Sturm inequalities for the real zeros of the solutions of the Gauss hypergeometric differential equation. <i>Journal of Approximation Theory</i> , 2007, 148, 92-110.	0.5	6
64	Algorithm 914. <i>ACM Transactions on Mathematical Software</i> , 2011, 38, 1-5.	1.6	6
65	Monotonicity properties and bounds for the chi-square and gamma distributions. <i>Applied Mathematics and Computation</i> , 2014, 246, 399-415.	1.4	6
66	Efficient algorithms for the inversion of the cumulative central beta distribution. <i>Numerical Algorithms</i> , 2017, 74, 77-91.	1.1	6
67	Fast, reliable and unrestricted iterative computation of Gauss–Hermite and Gauss–Laguerre quadratures. <i>Numerische Mathematik</i> , 2019, 143, 649-682.	0.9	6
68	Nuclear tests for the strange charge from factor of the nucleon. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1992, 282, 177-184.	1.5	5
69	A novel kind of neutrino oscillation experiment. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1994, 335, 93-98.	1.5	5
70	DTORH3 2.0: A new version of a computer program for the evaluation of toroidal harmonics. <i>Computer Physics Communications</i> , 2001, 139, 186-191.	3.0	5
71	A combined symbolic and numerical algorithm for the computation of zeros of orthogonal polynomials and special functions. <i>Journal of Symbolic Computation</i> , 2003, 35, 465-485.	0.5	5
72	Computing the complex zeros of special functions. <i>Numerische Mathematik</i> , 2013, 124, 723-752.	0.9	5

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73	On the complex zeros of Airy and Bessel functions and those of their derivatives. Analysis and Applications, 2014, 12, 537-561.	1.2	5
74	On a conjecture regarding the extrema of Bessel functions and its generalization. Journal of Mathematical Analysis and Applications, 2003, 280, 54-62.	0.5	4
75	Uniform asymptotic expansions for Laguerre polynomials and related confluent hypergeometric functions. Advances in Computational Mathematics, 2018, 44, 1441-1474.	0.8	4
76	Fast and reliable high-accuracy computation of Gauss-Jacobi quadrature. Numerical Algorithms, 2021, 87, 1391-1419.	1.1	4
77	On the zeros of the Scorer functions. Journal of Approximation Theory, 2003, 120, 253-266.	0.5	3
78	Computational properties of three-term recurrence relations for Kummer functions. Journal of Computational and Applied Mathematics, 2010, 233, 1505-1510.	1.1	3
79	Computing the real zeros of cylinder functions and the roots of the equation $x^2 + C = 0$. Computers and Mathematics with Applications, 2012, 64, 11-21.	1.4	3
80	Computing the Kummer function $U(a, b, z)$ for small values of the arguments. Applied Mathematics and Computation, 2015, 271, 532-539.	1.4	3
81	The Schwarzian-Newton method for solving nonlinear equations, with applications. Mathematics of Computation, 2016, 86, 865-879.	1.1	3
82	Modeling the influence of co-localized intracellular calcium stores on the secretory response of bovine chromaffin cells. Computers in Biology and Medicine, 2018, 100, 165-175.	3.9	3
83	Numerical evaluation of Airy-type integrals arising in uniform asymptotic analysis. Journal of Computational and Applied Mathematics, 2020, 371, 112717.	1.1	3
84	Asymptotic expansions of Jacobi polynomials and of the nodes and weights of Gauss-Jacobi quadrature for large degree and parameters in terms of elementary functions. Journal of Mathematical Analysis and Applications, 2021, 494, 124642.	0.5	3
85	Engineering pancreatic islets. Pflugers Archiv European Journal of Physiology, 2000, 440, 1.	1.3	3
86	Monotonicity Properties for Ratios and Products of Modified Bessel Functions and Sharp Trigonometric Bounds. Results in Mathematics, 2021, 76, 1.	0.4	3
87	Software for simulating calcium-triggered exocytotic processes. American Journal of Physiology - Cell Physiology, 2007, 292, C749-C755.	2.1	2
88	Exocytotic dynamics in human chromaffin cells: experiments and modeling. Journal of Computational Neuroscience, 2013, 34, 27-37.	0.6	2
89	Recent software developments for special functions in the Santander-Amsterdam project. Science of Computer Programming, 2014, 90, 42-54.	1.5	2
90	Uniform (very) sharp bounds for ratios of parabolic cylinder functions. Studies in Applied Mathematics, 2021, 147, 816-833.	1.1	2

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91	Computation of the reverse generalized Bessel polynomials and their zeros. Computational and Mathematical Methods, 2021, 3, e1198.	0.3	2
92	Basic Methods for Computing Special Functions. , 2011, , 67-121.		2
93	A new asymptotic representation and inversion method for the Student's t distribution. Integral Transforms and Special Functions, 0, , 1-12.	0.8	2
94	A potential test of the CP properties and Majorana nature of neutrinos. Nuclear Physics, Section B, Proceedings Supplements, 2000, 87, 330-332.	0.5	1
95	Calcium3D: A visual software package for the simulation of calcium buffered diffusion in neuroendocrine cells. Computer Methods and Programs in Biomedicine, 2005, 80, 173-180.	2.6	1
96	Computation of a numerically satisfactory pair of solutions of the differential equation for conical functions of non-negative integer orders. Numerical Algorithms, 2015, 68, 497-509.	1.1	1
97	Conical : An extended module for computing a numerically satisfactory pair of solutions of the differential equation for conical functions. Computer Physics Communications, 2017, 217, 193-197.	3.0	1
98	A new Fortran 90 program to compute regular and irregular associated Legendre functions (new) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 4	3.0	1
99	On the computation and inversion of the cumulative noncentral beta distribution function. Applied Mathematics and Computation, 2019, 361, 74-86.	1.4	1
100	Complete asymptotic expansions for the relativistic Fermi-Dirac integral. Applied Mathematics and Computation, 2022, 412, 126618.	1.4	1
101	The Asymptotic Inversion of Certain Cumulative Distribution Functions. Mathematics in Industry, 2010, , 117-122.	0.1	1
102	Asymptotic Expansions of Jacobi Polynomials for Large Values of $\hat{\nu}^2$ and of Their Zeros. Symmetry, Integrability and Geometry: Methods and Applications (SIGMA), 0, , .	0.5	1
103	Simulation of cytoskeleton influence on spatial Ca^{2+} dynamics in neuroendocrine cells. BMC Neuroscience, 2009, 10, .	0.8	0
104	Neurite extensions in chromaffin cells: study of the influence of the cytoskeletal structure on calcium dynamics and secretion. Frontiers in Life Science: Frontiers of Interdisciplinary Research in the Life Sciences, 2012, 6, 61-69.	1.1	0
105	On bounds for monotonic first order differential systems and the Liouville's Green approximation. Journal of Approximation Theory, 2013, 170, 107-115.	0.5	0
106	Preface to the special issue on Numerical Software: Design, Analysis and Verification. Science of Computer Programming, 2014, 90, 1.	1.5	0
107	GammaCHI: A package for the inversion and computation of the gamma and chi-square cumulative distribution functions (central and noncentral). New version announcement. Computer Physics Communications, 2021, 267, 108083.	3.0	0
108	Computation of the Real Zeros of the Kummer Function $M(a;c;x)$. Lecture Notes in Computer Science, 2006, , 296-307.	1.0	0

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109	Interdisciplinary approaches to calcium dynamics and secretory processes in cells. HFSP Journal, 2010, 4, 41.	2.5	0
110	A theoretical study of factors influencing calcium-secretion coupling in a presynaptic active zone model. Mathematical Biosciences and Engineering, 2014, 11, 1027-1043.	1.0	0
111	Special Functions: Computation. , 2015, , 1349-1352.		0