Jose E Roman

List of Publications by Year
in descending order

61 papers	1,257 citations	686830 13 h-index	360668 35 g-index
66 all docs	66 docs citations	66 times ranked	1427 citing authors

#	Article	IF	Citations
1	SLEPc. ACM Transactions on Mathematical Software, 2005, 31, 351-362.	1.6	747
2	Parallel Arnoldi eigensolvers with enhanced scalability via global communications rearrangement. Parallel Computing, 2007, 33, 521-540.	1.3	45
3	Parallel Computation of 3-D Soil-Structure Interaction in Time Domain with a Coupled FEM/SBFEM Approach. Journal of Scientific Computing, 2012, 52, 446-467.	1.1	36
4	SLEPc: Scalable Library for Eigenvalue Problem Computations. Lecture Notes in Computer Science, 2003, , 377-391.	1.0	32
5	ELSI â€" An open infrastructure for electronic structure solvers. Computer Physics Communications, 2020, 256, 107459.	3.0	27
6	Stellarator microinstabilities and turbulence at low magnetic shear. Journal of Plasma Physics, 2018, 84, .	0.7	26
7	Parallel Krylov Solvers for the Polynomial Eigenvalue Problem in SLEPc. SIAM Journal of Scientific Computing, 2016, 38, S385-S411.	1.3	23
8	Design and implementation of Java bindings in Open MPI. Parallel Computing, 2016, 59, 1-20.	1.3	23
9	Strategies for spectrum slicing based on restarted Lanczos methods. Numerical Algorithms, 2012, 60, 279-295.	1.1	21
10	Fast eigenvalue calculations in a massively parallel plasma turbulence code. Parallel Computing, 2010, 36, 339-358.	1.3	19
11	Memory-efficient Arnoldi algorithms for linearizations of matrix polynomials in Chebyshev basis. Numerical Linear Algebra With Applications, 2014, 21, 569-588.	0.9	19
12	KSPHPDDM and PCHPDDM: Extending PETSc with advanced Krylov methods and robust multilevel overlapping Schwarz preconditioners. Computers and Mathematics With Applications, 2021, 84, 277-295.	1.4	16
13	LARGE SCALE SIMULATION OF WAVE PROPAGATION IN SOILS INTERACTING WITH STRUCTURES USING FEM AND SBFEM. Journal of Computational Acoustics, 2011, 19, 75-93.	1.0	15
14	Parallel implementation of the MAGPACK package for the analysis of high-nuclearity spin clusters. Computer Physics Communications, 2010, 181, 1929-1940.	3.0	14
15	Multi-dimensional gyrokinetic parameter studies based on eigenvalue computations. Computer Physics Communications, 2012, 183, 922-930.	3.0	13
16	On low-frequency variability of the midlatitude ocean gyres. Journal of Fluid Mechanics, 2016, 795, 423-442.	1.4	13
17	A parallel implementation of Davidson methods for large-scale eigenvalue problems in SLEPc. ACM Transactions on Mathematical Software, 2014, 40, 1-29.	1.6	11
18	Non-linear eigenvalue problems with GetDP and SLEPc: Eigenmode computations of frequency-dispersive photonic open structures. Computer Physics Communications, 2020, 257, 107509.	3.0	11

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19	Calculation of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si54.svg"><mml:mrow><mml:mi>l</mml:mi></mml:mrow></mml:math> modes of the multi-group neutron transport equation using the discrete ordinates and Finite Difference Method. Annals of Nuclear Energy, 2020, 137, 107077.	0.9	10
20	Towards the availability of Java bindings in open MPI. , 2013, , .		9
21	A Parallel Structured Divide-and-Conquer Algorithm for Symmetric Tridiagonal Eigenvalue Problems. IEEE Transactions on Parallel and Distributed Systems, 2021, 32, 367-378.	4.0	9
22	Assembly Discontinuity Factors for the Neutron Diffusion Equation discretized with the Finite Volume Method. Application to BWR. Annals of Nuclear Energy, 2016, 97, 76-85.	0.9	8
23	Control rod drop transient analysis with the coupled parallel code pCTF-PARCSv2.7. Annals of Nuclear Energy, 2016, 87, 308-317.	0.9	8
24	A Krylovâ€“Schur solution of the eigenvalue problem for the neutron diffusion equation discretized with the Raviartâ€“Thomas method. Journal of Nuclear Science and Technology, 2017, 54, 1085-1094.	0.7	7
25	SIESTAâ€SIPs: Massively parallel spectrumâ€slicing eigensolver for an ab initio molecular dynamics package. Journal of Computational Chemistry, 2018, 39, 1806-1814.	1.5	7
26	Computation of scattering resonances in absorptive and dispersive media with applications to metal-dielectric nano-structures. Journal of Computational Physics, 2020, 407, 109220.	1.9	7
27	Simulating control rod and fuel assembly motion using moving meshes. Annals of Nuclear Energy, 2008, 35, 291-303.	0.9	6
28	Development of a finite volume inter-cell polynomial expansion method for the neutron diffusion equation. Journal of Nuclear Science and Technology, 2016, 53, 1212-1223.	0.7	6
29	Computing subdominant unstable modes of turbulent plasma with a parallel Jacobiâ€“Davidson eigensolver. Concurrency Computation Practice and Experience, 2011, 23, 2179-2191.	1.4	5
30	Parallel Direct Solution of the Covariance-Localized Ensemble Square Root Kalman Filter Equations with Matrix Functions. Monthly Weather Review, 2018, 146, 2819-2836.	0.5	5
31	NEP. ACM Transactions on Mathematical Software, 2021, 47, 1-29.	1.6	5
32	Parallel finite element density functional computations exploiting grid refinement and subspace recycling. Computer Physics Communications, 2013, 184, 66-72.	3.0	4
33	Restarted Q-Arnoldi-type methods exploiting symmetry in quadratic eigenvalue problems. BIT Numerical Mathematics, 2016, 56, 1213-1236.	1.0	4
34	MPI-CUDA parallel linear solvers for block-tridiagonal matrices in the context of SLEPcâ€™s eigensolvers. Parallel Computing, 2018, 74, 118-135.	1.3	4
35	A polynomial Jacobiâ€“Davidson solver with support for non-monomial bases and deflation. BIT Numerical Mathematics, 2020, 60, 295-318.	1.0	4
36	Parallel Eigensolvers for a Discretized Radiative Transfer Problem. Lecture Notes in Computer Science, 2008, , 336-348.	1.0	4

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37	A Parallel Implementation of the Jacobi-Davidson Eigensolver and Its Application in a Plasma Turbulence Code. Lecture Notes in Computer Science, 2010, , 101-112.	1.0	3
38	Harnessing GPU Power from High-level Libraries: Eigenvalues of Integral Operators with SLEPc. Procedia Computer Science, 2013, 18, 2591-2594.	1.2	3
39	Multigroup neutron diffusion equation with the finite volume method in reactors using MOX fuels. Journal of Nuclear Science and Technology, 2017, 54, 1251-1260.	0.7	3
40	Calculation of multiple eigenvalues of the neutron diffusion equation discretized with a parallelized finite volume method. Progress in Nuclear Energy, 2018, 105, 271-278.	1.3	3
41	A Parallel Rendering Algorithm Based on Hierarchical Radiosity. Lecture Notes in Computer Science, 2003, , 523-536.	1.0	3
42	PARALLEL SLICOT MODEL REDUCTION ROUTINES: THE CHOLESKY FACTOR OF GRAMMIANS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 327-332.	0.4	2
43	A Survey of High-Quality Computational Libraries and Their Impact in Science and Engineering Applications. Lecture Notes in Computer Science, 2005, , 37-50.	1.0	2
44	Evaluation of Several Variants of Explicitly Restarted Lanczos Eigensolvers and Their Parallel Implementations. , 2006, , 403-416.		2
45	Inertiaâ€based spectrum slicing for symmetric quadratic eigenvalue problems. Numerical Linear Algebra With Applications, 2020, 27, e2293.	0.9	2
46	High performance virtual reality distributed electronic commerce: application for the furniture and ceramics industries. , 0, , .		1
47	High-quality computational tools for linear-algebra problems in FEM electromagnetic simulation [EM Programmer's Notebook]. IEEE Antennas and Propagation Magazine, 2004, 46, 110-119.	1.2	1
48	Optimized analysis of isotropic high-nuclearity spin clusters with GPU acceleration. Computer Physics Communications, 2016, 209, 70-78.	3.0	1
49	Parallel iterative refinement in polynomial eigenvalue problems. Numerical Linear Algebra With Applications, 2016, 23, 730-745.	0.9	1
50	An extension of the Cayley transform method for a parameterized generalized inverse eigenvalue problem. Numerical Linear Algebra With Applications, 2020, 27, e2327.	0.9	1
51	GPU Implementation of Krylov Solvers for Block-Tridiagonal Eigenvalue Problems. Lecture Notes in Computer Science, 2016, , 182-191.	1.0	1
52	Recent additions to SLEPc, the Scalable Library for Eigenvalue Problem computations. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1141703-1141704.	0.2	0
53	A parallel Krylovâ€Schur implementation for large Hermitian and nonâ€Hermitian eigenproblems. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 2020083-2020084.	0.2	0
54	Fast hopfield neural networks using subspace projections. Neurocomputing, 2010, 73, 1794-1800.	3.5	0

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55	A Jacobiâ€“Davidson type method with a correction equation tailored for integral operators. Numerical Algorithms, 2013, 64, 85-103.	1.1	0
56	Eigenvalue computations in the context of data-sparse approximations of integral operators. Journal of Computational and Applied Mathematics, 2013, 237, 171-181.	1.1	0
57	Improving accuracy of parallel SLICOT model reduction routines for stable systems. , 2015, , .		0
58	Verification of the Parallel Pin-Wise Core Simulator pCTF/PARCSv3.2 in Operational Control Rod Drop Transient Scenarios. Nuclear Science and Engineering, 2017, 187, 254-267.	0.5	0
59	A Parallel Implementation of the Trace Minimization Eigensolver. Lecture Notes in Computer Science, 2008, , 255-268.	1.0	0
60	Numerical Integral Eigensolver for a Ring Region on the Complex Plane. Lecture Notes in Computational Science and Engineering, 2017, , 19-30.	0.1	0
61	MICSc: a PETSc-Based Parallel Code for Large Eddy Simulation. , 0, , .		0