Robert Krasny

List of Publications by Year
in descending order

41 papers	3,161 citations	471509 17 h-index	361022 35 g-index
41 all docs	41 docs citations	41 times ranked	3488 citing authors

#	Article	IF	Citations
1	Improvements to the <scp>APBS</scp> biomolecular solvation software suite. Protein Science, 2018, 27, 112-128.	7.6	1,399
2	A study of singularity formation in a vortex sheet by the point-vortex approximation. Journal of Fluid Mechanics, 1986, 167, 65.	3.4	352
3	Desingularization of periodic vortex sheet roll-up. Journal of Computational Physics, 1986, 65, 292-313.	3.8	344
4	Computation of vortex sheet roll-up in the Trefftz plane. Journal of Fluid Mechanics, 1987, 184, 123-155.	3.4	183
5	A numerical study of vortex ring formation at the edge of a circular tube. Journal of Fluid Mechanics, 1994, 276, 139-161.	3.4	156
6	A Particle Method and Adaptive Treecode for Vortex Sheet Motion in Three-Dimensional Flow. Journal of Computational Physics, 2001, 172, 879-907.	3.8	129
7	A treecode-accelerated boundary integral Poisson–Boltzmann solver for electrostatics of solvated biomolecules. Journal of Computational Physics, 2013, 247, 62-78.	3.8	75
8	A Cartesian treecode for screened coulomb interactions. Journal of Computational Physics, 2009, 228, 3858-3868.	3.8	71
9	An Ewald summation based multipole method. Journal of Chemical Physics, 2000, 113, 3492-3495.	3.0	61
10	An adaptive treecode for computing nonbonded potential energy in classical molecular systems. Journal of Computational Chemistry, 2001, 22, 184-195.	3.3	53
11	Thermal properties of organic light-emitting diodes. Organic Electronics, 2012, 13, 1565-1568.	2.6	42
12	The onset of chaos in vortex sheet flow. Journal of Fluid Mechanics, 2002, 454, 47-69.	3.4	40
13	Grid-free plasma Simulation techniques. IEEE Transactions on Plasma Science, 2006, 34, 149-165.	1.3	35
14	Efficient Particle Simulation of a Virtual Cathode Using a Grid-Free Treecode Poisson Solver. IEEE Transactions on Plasma Science, 2004, 32, 384-389.	1.3	23
15	Convergence of a Point Vortex Method for Vortex Sheets. SIAM Journal on Numerical Analysis, 1991, 28, 308-320.	2.3	18
16	A treecode algorithm for simulating electron dynamics in a Penning–Malmberg trap. Computer Physics Communications, 2004, 164, 306-310.	7.5	18
17	Azimuthal instability of a vortex ring computed by a vortex sheet panel method. Fluid Dynamics Research, 2009, 41, 051405.	1.3	18
18	Fast Evaluation of Multiquadric RBF Sums by a Cartesian Treecode. SIAM Journal of Scientific Computing, 2011, 33, 2341-2355.	2.8	15

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19	Comparison of treecodes for computing electrostatic potentials in charged particle systems with disjoint targets and sources. Journal of Computational Chemistry, 2013, 34, 2159-2167.	3.3	12
20	Computation of vortex sheet roll-up. Lecture Notes in Mathematics, 1988, , 9-22.	0.2	11
21	Numerical simulation of vortex sheet evolution. Fluid Dynamics Research, 1988, 3, 93-97.	1.3	10
22	A Lagrangian particle/panel method for the barotropic vorticity equations on a rotating sphere. Fluid Dynamics Research, 2014, 46, 031406.	1.3	10
23	Fourth-order finite difference simulation of a differentially heated cavity. International Journal for Numerical Methods in Fluids, 2002, 40, 1031-1037.	1.6	9
24	A Lagrangian particle method with remeshing for tracer transport on the sphere. Journal of Computational Physics, 2017, 340, 639-654.	3.8	9
25	A GPU-accelerated fast multipole method based on barycentric Lagrange interpolation and dual tree traversal. Computer Physics Communications, 2021, 265, 108017.	7.5	9
26	Computing Protein pKas Using the TABI Poisson–Boltzmann Solver. Journal of Computational Biophysics and Chemistry, 2021, 20, 175-187.	1.7	9
27	Computation of the Starting Vortex Flow Past a Flat Plate. Procedia IUTAM, 2017, 20, 136-143.	1.2	8
28	A vortex–dipole sheet model for a wake. Physics of Fluids A, Fluid Dynamics, 1989, 1, 173-175.	1.6	6
29	A treecode based on barycentric Hermite interpolation for electrostatic particle interactions. Computational and Mathematical Biophysics, 2019, 7, 73-84.	1.1	6
30	Comparison of regularizations of vortex sheet motion. , 2003, , 1062-1065.		5
31	A GPU-Accelerated Barycentric Lagrange Treecode. , 2020, , .		4
32	Comparison of the <scp>MSMS</scp> and <scp>NanoShaper</scp> molecular surface triangulation codes in the <scp>TABI</scp> Poisson–Boltzmann solver. Journal of Computational Chemistry, 2021, 42, 1552-1560.	3.3	4
33	Accelerating the 3D reference interaction site model theory of molecular solvation with treecode summation and cut–offs. Journal of Computational Chemistry, 2022, 43, 1251-1270.	3.3	4
34	Treecode-accelerated Green iteration for Kohn-Sham density functional theory. Journal of Computational Physics, 2021, 430, 110101.	3.8	3
35	A treecode algorithm for computing Ewald summation of dipolar systems. , 2003, , .		2
36	Vorticity and circulation decay in the viscous Lamb dipole. Fluid Dynamics Research, 2021, 53, 015514.	1.3	2

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37	An adaptive treecode for computing nonbonded potential energy in classical molecular systems. , 2001, 22, 184.		2
38	Treecode Algorithms for Computing Nonbonded Particle Interactions. Lecture Notes in Computational Science and Engineering, 2002, , 359-380.	0.3	2
39	Viscous Simulation of Wake Patterns. , 1993, , 145-151.		1
40	Computing electrostatic binding energy with the TABI Poisson–Boltzmann solver. Communications in Information and Systems, 2022, 22, 247-273.	0.5	1
41	Simulation of vortex sheet roll-up: chaos, azimuthal waves, ring merger. , 2002, , 3-12.		0