

Jan Mandel

List of Publications by Year in descending order

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103
papers

5,467
citations

87723

38
h-index

82410

72
g-index

115
all docs

115
docs citations

115
times ranked

2234
citing authors

#	ARTICLE	IF	CITATIONS
1	Algebraic multigrid by smoothed aggregation for second and fourth order elliptic problems. Computing (Vienna/New York), 1996, 56, 179-196.	3.2	558
2	Balancing domain decomposition. Communications in Numerical Methods in Engineering, 1993, 9, 233-241.	1.3	428
3	Optimal convergence properties of the FETI domain decomposition method. Computer Methods in Applied Mechanics and Engineering, 1994, 115, 365-385.	3.4	290
4	Coupled atmosphere-wildland fire modeling with WRF 3.3 and SFIRE 2011. Geoscientific Model Development, 2011, 4, 591-610.	1.3	195
5	The Finite Volume Element Method for Diffusion Equations on General Triangulations. SIAM Journal on Numerical Analysis, 1991, 28, 392-402.	1.1	194
6	An algebraic theory for primal and dual substructuring methods by constraints. Applied Numerical Mathematics, 2005, 54, 167-193.	1.2	192
7	Convergence of algebraic multigrid based on smoothed aggregation. Numerische Mathematik, 2001, 88, 559-579.	0.9	191
8	Convergence of a balancing domain decomposition by constraints and energy minimization. Numerical Linear Algebra With Applications, 2003, 10, 639-659.	0.9	183
9	Balancing domain decomposition for problems with large jumps in coefficients. Mathematics of Computation, 1996, 65, 1387-1402.	1.1	135
10	The two-level FETI method for static and dynamic plate problems Part I: An optimal iterative solver for biharmonic systems. Computer Methods in Applied Mechanics and Engineering, 1998, 155, 129-151.	3.4	132
11	On the convergence of a dual-primal substructuring method. Numerische Mathematik, 2001, 88, 543-558.	0.9	127
12	Convergence of a substructuring method with Lagrange multipliers. Numerische Mathematik, 1996, 73, 473-487.	0.9	123
13	Energy Optimization of Algebraic Multigrid Bases. Computing (Vienna/New York), 1999, 62, 205-228.	3.2	113
14	A wildland fire model with data assimilation. Mathematics and Computers in Simulation, 2008, 79, 584-606.	2.4	111
15	A scalable Lagrange multiplier based domain decomposition method for time-dependent problems. International Journal for Numerical Methods in Engineering, 1995, 38, 3831-3853.	1.5	104
16	On the convergence of the ensemble Kalman filter. Applications of Mathematics, 2011, 56, 533-541.	0.9	87
17	The two-level FETI method Part II: Extension to shell problems, parallel implementation and performance results. Computer Methods in Applied Mechanics and Engineering, 1998, 155, 153-179.	3.4	86
18	Adaptive selection of face coarse degrees of freedom in the BDDC and the FETI-DP iterative substructuring methods. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 1389-1399.	3.4	84

#	ARTICLE	IF	CITATIONS
19	A Neumann–Neumann Domain Decomposition Algorithm for Solving Plate and Shell Problems. SIAM Journal on Numerical Analysis, 1998, 35, 836-867.	1.1	77
20	Data assimilation for wildland fires. IEEE Control Systems, 2009, 29, 47-65.	1.0	74
21	Balancing domain decomposition for mixed finite elements. Mathematics of Computation, 1995, 64, 989-1015.	1.1	70
22	A multilevel iterative method for symmetric, positive definite linear complementarity problems. Applied Mathematics and Optimization, 1984, 11, 77-95.	0.8	69
23	Iterative solvers by substructuring for the p-version finite element method. Computer Methods in Applied Mechanics and Engineering, 1990, 80, 117-128.	3.4	69
24	Recent advances and applications of WRF-SFIRE. Natural Hazards and Earth System Sciences, 2014, 14, 2829-2845.	1.5	66
25	Two-level domain decomposition preconditioning for the p-version finite element method in three dimensions. International Journal for Numerical Methods in Engineering, 1990, 29, 1095-1108.	1.5	64
26	On the spectra of sums of orthogonal projections with applications to parallel computing. BIT Numerical Mathematics, 1991, 31, 76-88.	1.0	64
27	Multispace and multilevel BDDC. Computing (Vienna/New York), 2008, 83, 55-85.	3.2	62
28	A Scalable Substructuring Method by Lagrange Multipliers for Plate Bending Problems. SIAM Journal on Numerical Analysis, 1999, 36, 1370-1391.	1.1	58
29	Adaptive BDDC in three dimensions. Mathematics and Computers in Simulation, 2012, 82, 1812-1831.	2.4	54
30	Evaluation of WRF-SFIRE performance with field observations from the FireFlux experiment. Geoscientific Model Development, 2013, 6, 1109-1126.	1.3	54
31	Theoretical comparison of the FETI and algebraically partitioned FETI methods, and performance comparisons with a direct sparse solver. International Journal for Numerical Methods in Engineering, 1999, 46, 501-533.	1.5	52
32	Multigrid convergence for nonsymmetric, indefinite variational problems and one smoothing step. Applied Mathematics and Computation, 1986, 19, 201-216.	1.4	49
33	A multilevel variational method for $Au = \hat{L}Bu$ on composite grids. Journal of Computational Physics, 1989, 80, 442-452.	1.9	46
34	An Algebraic Theory for Multigrid Methods for Variational Problems. SIAM Journal on Numerical Analysis, 1988, 25, 91-110.	1.1	45
35	On block diagonal and Schur complement preconditioning. Numerische Mathematik, 1990, 58, 79-93.	0.9	45
36	Morphing ensemble Kalman filters. Tellus, Series A: Dynamic Meteorology and Oceanography, 2008, 60, 131-140.	0.8	45

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37	A two-stage ensemble Kalman filter for smooth data assimilation. Environmental and Ecological Statistics, 2008, 15, 101-110.	1.9	40
38	Fire behaviour and smoke modelling: model improvement and measurement needs for next-generation smoke research and forecasting systems. International Journal of Wildland Fire, 2019, 28, 570.	1.0	40
39	Convergence of the Square Root Ensemble Kalman Filter in the Large Ensemble Limit. SIAM-ASA Journal on Uncertainty Quantification, 2015, 3, 1-17.	1.1	39
40	A local convergence proof for the iterative aggregation method. Linear Algebra and Its Applications, 1983, 51, 163-172.	0.4	38
41	Toward an integrated system for fire, smoke and air quality simulations. International Journal of Wildland Fire, 2016, 25, 534.	1.0	38
42	Adaptive-Multilevel BDDC and its parallel implementation. Computing (Vienna/New York), 2013, 95, 1087-1119.	3.2	36
43	The FireFlux II experiment: a model-guided field experiment to improve understanding of fire-atmosphere interactions and fire spread. International Journal of Wildland Fire, 2019, 28, 308.	1.0	35
44	Modeling Wildfire Smoke Feedback Mechanisms Using a Coupled Fire-Atmosphere Model With a Radiatively Active Aerosol Scheme. Journal of Geophysical Research D: Atmospheres, 2019, 124, 9099-9116.	1.2	32
45	Exact Calculations of Average Power for the Benjamini-Hochberg Procedure. International Journal of Biostatistics, 2008, 4, Article 11.	0.4	31
46	Quantifying the Impact of Biomass Burning Emissions on Major Inorganic Aerosols and Their Precursors in the U.S.. Journal of Geophysical Research D: Atmospheres, 2017, 122, 12,020.	1.2	31
47	Convergence of the cyclical relaxation method for linear inequalities. Mathematical Programming, 1984, 30, 218-228.	1.6	30
48	A multigrid method for three-dimensional elasticity and algebraic convergence estimates. Applied Mathematics and Computation, 1987, 23, 121-135.	1.4	30
49	Multigrid Methods for Nearly Singular Linear Equations and Eigenvalue Problems. SIAM Journal on Numerical Analysis, 1997, 34, 178-200.	1.1	29
50	Assimilation of Perimeter Data and Coupling with Fuel Moisture in a Wildland Fire-Atmosphere DDDAS. Procedia Computer Science, 2012, 9, 1100-1109.	1.2	28
51	Towards a Dynamic Data Driven Application System for Wildfire Simulation. Lecture Notes in Computer Science, 2005, , 632-639.	1.0	27
52	Algebraic study of multigrid methods for symmetric, definite problems. Applied Mathematics and Computation, 1988, 25, 39-56.	1.4	24
53	BDDC and FETI-DP under minimalist assumptions. Computing (Vienna/New York), 2007, 81, 269-280.	3.2	24
54	Application of the parallel BDDC preconditioner to the Stokes flow. Computers and Fluids, 2011, 46, 429-435.	1.3	24

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55	A Dynamic Data Driven Wildland Fire Model. Lecture Notes in Computer Science, 2007, , 1042-1049.	1.0	22
56	On multilevel iterative methods for integral equations of the second kind and related problems. Numerische Mathematik, 1985, 46, 147-157.	0.9	21
57	Data driven computing by the morphing fast Fourier transform ensemble Kalman filter in epidemic spread simulations. Procedia Computer Science, 2010, 1, 1221-1229.	1.2	21
58	Iterative methods for p-version finite elements: preconditioning thin solids. Computer Methods in Applied Mechanics and Engineering, 1996, 133, 247-257.	3.4	19
59	An Iterative Substructuring Method for Coupled Fluid-Solid Acoustic Problems. Journal of Computational Physics, 2002, 177, 95-116.	1.9	19
60	Evaluating Wildfire Smoke Transport Within a Coupled Fire-Atmosphere Model Using a High-Density Observation Network for an Episodic Smoke Event Along Utah's Wasatch Front. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032712.	1.2	18
61	DDDAS Approaches to Wildland Fire Modeling and Contaminant Tracking. , 2006, , .		17
62	Hybrid Levenberg-Marquardt and weak-constraint ensemble Kalman smoother method. Nonlinear Processes in Geophysics, 2016, 23, 59-73.	0.6	17
63	An Ensemble Kalman-Particle Predictor-Corrector Filter for Non-Gaussian Data Assimilation. Lecture Notes in Computer Science, 2009, , 470-478.	1.0	17
64	On the multigrid F-cycle. Applied Mathematics and Computation, 1990, 37, 19-36.	1.4	16
65	An iterative solver for p-version finite elements in three dimensions. Computer Methods in Applied Mechanics and Engineering, 1994, 116, 175-183.	3.4	16
66	Incorporating a Canopy Parameterization within a Coupled Fire-Atmosphere Model to Improve a Smoke Simulation for a Prescribed Burn. Atmosphere, 2020, 11, 832.	1.0	15
67	Data assimilation of dead fuel moisture observations from remote automated weather stations. International Journal of Wildland Fire, 2016, 25, 558.	1.0	14
68	Domain decomposition preconditioning for p-version finite elements with high aspect ratios. Applied Numerical Mathematics, 1991, 8, 411-425.	1.2	13
69	Machine Learning Estimation of Fire Arrival Time from Level-2 Active Fires Satellite Data. Remote Sensing, 2021, 13, 2203.	1.8	13
70	Demonstrating the Validity of a Wildfire DDDAS. Lecture Notes in Computer Science, 2006, , 522-529.	1.0	12
71	Convergence of Finite Elements for Transonic Potential Flows. SIAM Journal on Numerical Analysis, 1987, 24, 985-996.	1.1	11
72	BDDC by a frontal solver and the stress computation in a hip joint replacement. Mathematics and Computers in Simulation, 2010, 80, 1310-1323.	2.4	10

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73	Bayesian tracking of emerging epidemics using ensemble optimal statistical interpolation. Spatial and Spatio-temporal Epidemiology, 2014, 10, 39-48.	0.9	10
74	FAST FOURIER TRANSFORM ENSEMBLE KALMAN FILTER WITH APPLICATION TO A COUPLED ATMOSPHERE-WILDLAND FIRE MODEL. , 2010, , .		9
75	Experimental Design of a Prescribed Burn Instrumentation. Atmosphere, 2018, 9, 296.	1.0	9
76	Fast Hybrid Solution of Algebraic Systems. SIAM Journal on Scientific and Statistical Computing, 1990, 11, 1073-1086.	1.5	8
77	Simulation of the 2009 Harmanli Fire (Bulgaria). Lecture Notes in Computer Science, 2012, , 291-298.	1.0	8
78	Iterative solvers for coupled fluid–solid scattering. Applied Numerical Mathematics, 2005, 54, 194-207.	1.2	7
79	An Interactive Data-Driven HPC System for Forecasting Weather, Wildland Fire, and Smoke. , 2019, , .		7
80	On the convergence of a non-linear ensemble Kalman smoother. Applied Numerical Mathematics, 2019, 137, 151-168.	1.2	6
81	Morphing ensemble Kalman filters. Tellus, Series A: Dynamic Meteorology and Oceanography, 2008, , .	0.8	6
82	A convergence analysis of the iterative aggregation method with one parameter. Linear Algebra and Its Applications, 1984, 59, 159-169.	0.4	5
83	Wavelet ensemble Kalman filters. , 2011, , .		5
84	Spectral diagonal ensemble Kalman filters. Nonlinear Processes in Geophysics, 2015, 22, 485-497.	0.6	5
85	Adaptive Coarse Space Selection in the BDDC and the FETI-DP Iterative Substructuring Methods: Optimal Face Degrees of Freedom. , 2007, , 421-428.		5
86	Real-Time Data Driven Wildland Fire Modeling. Lecture Notes in Computer Science, 2008, , 46-53.	1.0	5
87	On Adaptive-Multilevel BDDC. Lecture Notes in Computational Science and Engineering, 2011, , 39-50.	0.1	5
88	Integration of a Coupled Fire-Atmosphere Model Into a Regional Air Quality Forecasting System for Wildfire Events. Frontiers in Forests and Global Change, 2021, 4, .	1.0	5
89	Data management and analysis with WRF and SFIRE. , 2012, , .		3
90	Dynamic Data-Driven Application Systems for Empty Houses, Contaminat Tracking, and Wildland Fireline Prediction. , 2007, , 255-272.		3

#	ARTICLE	IF	CITATIONS
91	Data assimilation of satellite fire detection in coupled atmosphere-fire simulation by wrf-sfire. , 0, , 716-725.		3
92	WRF-Fire Applied in Bulgaria. Lecture Notes in Computer Science, 2011, , 133-140.	1.0	3
93	A method for estimating the socioeconomic impact of Earth observations in wildland fire suppression decisions. International Journal of Wildland Fire, 2020, 29, 282.	1.0	3
94	Some Recent Advances in Multigrid Methods. Advances in Electronics and Electron Physics, 1991, , 327-377.	0.6	2
95	On multigrid and iterative aggregation methods for nonsymmetric problems. Lecture Notes in Mathematics, 1986, , 219-231.	0.1	1
96	Model analysis of BPX preconditioner based on smoothed aggregation. Applications of Mathematics, 2015, 60, 219-250.	0.9	1
97	Assimilation of Fire Perimeters and Satellite Detections by Minimization of the Residual in a Fire Spread Model. Lecture Notes in Computer Science, 2018, , 711-723.	1.0	1
98	Theoretical comparison of the FETI and algebraically partitioned FETI methods, and performance comparisons with a direct sparse solver. , 1999, 46, 501.		1
99	Score matching filters for Gaussian Markov random fields with a linear model of the precision matrix. , 2021, 3, 793.		1
100	Title is missing!. Applied Numerical Mathematics, 2005, 54, 105-106.	1.2	0
101	Multilevel maximum likelihood estimation with application to covariance matrices. Communications in Statistics - Theory and Methods, 2019, 48, 909-925.	0.6	0
102	A Parallel Implementation of the BDDC Method for the Stokes Flow. , 2011, , 807-812.		0
103	Iterative Solution for Thin Solid P-Version Elements. , 1995, , 445-450.		0