

Georg Stadler

List of Publications by Year in descending order

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31
papers

1,838
citations

471371

17
h-index

501076

28
g-index

31
all docs

31
docs citations

31
times ranked

1281
citing authors

#	ARTICLE	IF	CITATIONS
1	The Dynamics of Plate Tectonics and Mantle Flow: From Local to Global Scales. <i>Science</i> , 2010, 329, 1033-1038.	6.0	284
2	A Computational Framework for Infinite-Dimensional Bayesian Inverse Problems Part I: The Linearized Case, with Application to Global Seismic Inversion. <i>SIAM Journal of Scientific Computing</i> , 2013, 35, A2494-A2523.	1.3	245
3	Elliptic optimal control problems with L 1-control cost and applications for the placement of control devices. <i>Computational Optimization and Applications</i> , 2009, 44, 159-181.	0.9	170
4	A Computational Framework for Infinite-Dimensional Bayesian Inverse Problems, Part II: Stochastic Newton MCMC with Application to Ice Sheet Flow Inverse Problems. <i>SIAM Journal of Scientific Computing</i> , 2014, 36, A1525-A1555.	1.3	145
5	Scalable and efficient algorithms for the propagation of uncertainty from data through inference to prediction for large-scale problems, with application to flow of the Antarctic ice sheet. <i>Journal of Computational Physics</i> , 2015, 296, 348-368.	1.9	100
6	An extreme-scale implicit solver for complex PDEs. , 2015, , .		96
7	Parallel scalable adjoint-based adaptive solution of variable-viscosity Stokes flow problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2009, 198, 1691-1700.	3.4	94
8	A-Optimal Design of Experiments for Infinite-Dimensional Bayesian Linear Inverse Problems with Regularized ℓ_0 -Sparsification. <i>SIAM Journal of Scientific Computing</i> , 2014, 36, A2122-A2148.	1.3	85
9	A Fast and Scalable Method for A-Optimal Design of Experiments for Infinite-dimensional Bayesian Nonlinear Inverse Problems. <i>SIAM Journal of Scientific Computing</i> , 2016, 38, A243-A272.	1.3	85
10	An inexact Gauss-Newton method for inversion of basal sliding and rheology parameters in a nonlinear Stokes ice sheet model. <i>Journal of Glaciology</i> , 2012, 58, 889-903.	1.1	80
11	Multi-scale dynamics and rheology of mantle flow with plates. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	65
12	Optimal initial conditions for coupling ice sheet models to Earth system models. <i>Journal of Geophysical Research F: Earth Surface</i> , 2014, 119, 1894-1917.	1.0	52
13	Extreme-scale UQ for Bayesian inverse problems governed by PDEs. , 2012, , .		39
14	Mitigating the influence of the boundary on PDE-based covariance operators. <i>Inverse Problems and Imaging</i> , 2018, 12, 1083-1102.	0.6	38
15	Parallel geometric-algebraic multigrid on unstructured forests of octrees. , 2012, , .		33
16	Solution of Nonlinear Stokes Equations Discretized By High-Order Finite Elements on Nonconforming and Anisotropic Meshes, with Application to Ice Sheet Dynamics. <i>SIAM Journal of Scientific Computing</i> , 2015, 37, B804-B833.	1.3	32
17	Slab stress and strain rate as constraints on global mantle flow. <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	31
18	Discretely Exact Derivatives for Hyperbolic PDE-Constrained Optimization Problems Discretized by the Discontinuous Galerkin Method. <i>Journal of Scientific Computing</i> , 2015, 63, 138-162.	1.1	22

#	ARTICLE	IF	CITATIONS
19	Weighted BFBT Preconditioner for Stokes Flow Problems with Highly Heterogeneous Viscosity. SIAM Journal of Scientific Computing, 2017, 39, S272-S297.	1.3	21
20	Joint inversion in coupled quasi-static poroelasticity. Journal of Geophysical Research: Solid Earth, 2014, 119, 1425-1445.	1.4	20
21	Dynamics of the abrupt change in Pacific Plate motion around 50 million years ago. Nature Geoscience, 2022, 15, 74-78.	5.4	17
22	A comparative study of structural similarity and regularization for joint inverse problems governed by PDEs. Inverse Problems, 2019, 35, 024003.	1.0	14
23	Single-stage gradient-based stellarator coil design: stochastic optimization. Nuclear Fusion, 2022, 62, 076034.	1.6	14
24	Optimal experimental design under irreducible uncertainty for linear inverse problems governed by PDEs. Inverse Problems, 2020, 36, 075007.	1.0	11
25	Hierarchical Matrix Approximations of Hessians Arising in Inverse Problems Governed by PDEs. SIAM Journal of Scientific Computing, 2020, 42, A3397-A3426.	1.3	9
26	Bayesian approach to inverse scattering with topological priors. Inverse Problems, 2020, 36, 105001.	1.0	9
27	Optimal Design of Large-scale Bayesian Linear Inverse Problems Under Reducible Model Uncertainty: Good to Know What You Don't Know. SIAM-ASA Journal on Uncertainty Quantification, 2021, 9, 163-184.	1.1	8
28	Direct computation of magnetic surfaces in Boozer coordinates and coil optimization for quasisymmetry. Journal of Plasma Physics, 2022, 88, .	0.7	8
29	Advanced Newton Methods for Geodynamical Models of Stokes Flow With Viscoplastic Rheologies. Geochemistry, Geophysics, Geosystems, 2020, 21, e2020GC009059.	1.0	7
30	Robust Multigrid Techniques for Augmented Lagrangian Preconditioning of Incompressible Stokes Equations with Extreme Viscosity Variations. SIAM Journal of Scientific Computing, 2023, 45, S27-S53.	1.3	2
31	Simultaneous inference of plate boundary stresses and mantle rheology using adjoints: large-scale 2-D models. Geophysical Journal International, 2022, 231, 597-614.	1.0	2