Florian Frank

List of Publications by Year
in descending order

25 papers	429 citations	758635 12 h-index	752256 20 g-index
26 all docs	26 docs citations	26 times ranked	320 citing authors

#	Article	IF	Citations
1	A phase-field method for the direct simulation of two-phase flows in pore-scale media using a non-equilibrium wetting boundary condition. Computational Geosciences, 2016, 20, 881-908.	1.2	66
2	Multiscale Modeling of Colloid and Fluid Dynamics in Porous Media Including an Evolving Microstructure. Transport in Porous Media, 2012, 95, 669-696.	1.2	40
3	A finite volume / discontinuous Galerkin method for the advective Cahn–Hilliard equation with degenerate mobility on porous domains stemming from micro-CT imaging. Computational Geosciences, 2018, 22, 543-563.	1.2	30
4	Stabilized density gradient theory algorithm for modeling interfacial properties of pure and mixed systems. Fluid Phase Equilibria, 2017, 435, 118-130.	1.4	29
5	Direct Numerical Simulation of Flow on Pore-Scale Images Using the Phase-Field Method. SPE Journal, 2018, 23, 1833-1850.	1.7	29
6	FESTUNG: A MATLAB/GNU Octave toolbox for the discontinuous Galerkin method, Part I: Diffusion operator. Computers and Mathematics With Applications, 2015, 70, 11-46.	1.4	27
7	Strong solvability up to clogging of an effective diffusion–precipitation model in an evolving porous medium. European Journal of Applied Mathematics, 2017, 28, 179-207.	1.4	24
8	A distributed parallel direct simulator for pore-scale two-phase flow on digital rock images using a finite difference implementation of the phase-field method. Journal of Petroleum Science and Engineering, 2018, 166, 806-824.	2.1	22
9	An energy-based equilibrium contact angle boundary condition on jagged surfaces for phase-field methods. Journal of Colloid and Interface Science, 2018, 523, 282-291.	5.0	22
10	FESTUNG: A MATLAB/GNU Octave toolbox for the discontinuous Galerkin method, Part II: Advection operator and slope limiting. Computers and Mathematics With Applications, 2016, 72, 1896-1925.	1.4	21
11	An efficient numerical algorithm for solving viscosity contrast Cahn–Hilliard–Navier–Stokes system in porous media. Journal of Computational Physics, 2020, 400, 108948.	1.9	19
12	Numerical investigation of homogenized Stokes–Nernst–Planck–Poisson systems. Computing and Visualization in Science, 2011, 14, 385-400.	1.2	17
13	Numerical error analysis for nonsymmetric interior penalty discontinuous Galerkin method of Cahn–Hilliard equation. Numerical Methods for Partial Differential Equations, 2019, 35, 1509-1537.	2.0	15
14	Bound-preserving flux limiting schemes for DG discretizations of conservation laws with applications to the Cahn–Hilliard equation. Computer Methods in Applied Mechanics and Engineering, 2020, 359, 112665.	3.4	12
15	An interior penalty discontinuous Galerkin approach for 3D incompressible Navier–Stokes equation for permeability estimation of porous media. Journal of Computational Physics, 2019, 396, 669-686.	1.9	11
16	Inexact hierarchical scale separation: A two-scale approach for linear systems from discontinuous Galerkin discretizations. Computers and Mathematics With Applications, 2017, 74, 1769-1778.	1.4	9
17	Enriched Galerkin method for the shallow-water equations. GEM - International Journal on Geomathematics, 2020, 11, 1.	0.7	7
18	Mass-Conserved Density Gradient Theory Model for Nucleation Process. Industrial & Engineering Chemistry Research, 2018, 57, 16476-16485.	1.8	6

#	Article	IF	Citations
19	Numerical benchmark study for flow in highly heterogeneous aquifers. Advances in Water Resources, 2020, 138, 103558.	1.7	6
20	FESTUNG 1.0: Overview, usage, and example applications of the MATLAB/GNU Octave toolbox for discontinuous Galerkin methods. Computers and Mathematics With Applications, 2021, 81, 3-41.	1.4	6
21	Convergence analysis of a BDF2â€‰/â€‰mixed finite element discretization of a Darcyâ€"Nernstâ€"Planckâ€"Poisson system. ESAIM: Mathematical Modelling and Numerical Analysis, 2017, 51, 1883-1902.	0.8	4
22	A Discontinuous Galerkin Finite Element Framework for the Direct Numerical Simulation of Flow on High-Resolution Pore-Scale Images. , 2017, , .		3
23	Asynchronous Hybrid Parallel SpMV in an Industrial Application. , 2016, , .		2
24	Editorial: Advanced modeling and simulation of flow in subsurface reservoirs with fractures and wells for a sustainable industry. Oil and Gas Science and Technology, 2021, 76, E1.	1.4	0
25	Schur preconditioning of the Stokes equations in channel-dominated domains. Computer Methods in Applied Mechanics and Engineering, 2022, 398, 115264.	3.4	0