

# Rainer Helmig

## List of Publications by Year in descending order

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204  
papers

6,437  
citations

61857

43  
h-index

95083

68  
g-index

213  
all docs

213  
docs citations

213  
times ranked

3993  
citing authors

#	ARTICLE	IF	CITATIONS
1	A fully implicit coupled pore-network/free-flow model for the pore-scale simulation of drying processes. <i>Drying Technology</i> , 2022, 40, 697-718.	1.7	9
2	Comparison of cell- and vertex-centered finite-volume schemes for flow in fractured porous media. <i>Journal of Computational Physics</i> , 2022, 448, 110715.	1.9	2
3	An Adaptive Hybrid Vertical Equilibrium/Full-Dimensional Model for Compositional Multiphase Flow. <i>Water Resources Research</i> , 2022, 58, .	1.7	4
4	Celebration of Professor Bernhard Weigand on his 60th birthday. <i>International Journal of Heat and Mass Transfer</i> , 2022, 188, 122626.	2.5	0
5	The Role of Mixed Convection and Hydrodynamic Dispersion During CO <sub>2</sub> Dissolution in Saline Aquifers: A Numerical Study. <i>Water Resources Research</i> , 2022, 58, .	1.7	16
6	Evaporation-Driven Density Instabilities in Saturated Porous Media. <i>Transport in Porous Media</i> , 2022, 143, 297-341.	1.2	5
7	Modeling Subsurface Hydrogen Storage With Transport Properties From Entropy Scaling Using the PC-SAFT Equation of State. <i>Water Resources Research</i> , 2022, 58, .	1.7	10
8	Flux-Mortar Mixed Finite Element Methods on NonMatching Grids. <i>SIAM Journal on Numerical Analysis</i> , 2022, 60, 1193-1225.	1.1	2
9	Transport of Turbulence Across Permeable Interface in a Turbulent Channel Flow: Interface-Resolved Direct Numerical Simulation. <i>Transport in Porous Media</i> , 2021, 136, 165-189.	1.2	15
10	Multi-scale three-domain approach for coupling free flow and flow in porous media including droplet-related interface processes. <i>Journal of Computational Physics</i> , 2021, 429, 109993.	1.9	9
11	The Complexity of Porous Media Flow Characterized in a Microfluidic Model Based on Confocal Laser Scanning Microscopy and Micro-PIV. <i>Transport in Porous Media</i> , 2021, 136, 343-367.	1.2	10
12	Prediction of soil evaporation measured with weighable lysimeters using the FAO Penman-Monteith method in combination with Richards' equation. <i>Vadose Zone Journal</i> , 2021, 20, e20102.	1.3	10
13	Explicit continuum scale modeling of low-salinity mechanisms. <i>Journal of Petroleum Science and Engineering</i> , 2021, 199, 108336.	2.1	2
14	A Dynamic and Fully Implicit Non-isothermal, Two-Phase, Two-Component Pore-Network Model Coupled to Single-Phase Free Flow for the Pore-Scale Description of Evaporation Processes. <i>Water Resources Research</i> , 2021, 57, e2020WR028772.	1.7	10
15	On multicomponent gas diffusion and coupling concepts for porous media and free flow: a benchmark study. <i>Computational Geosciences</i> , 2021, 25, 1493-1507.	1.2	12
16	A (Dual) Network Model for Heat Transfer in Porous Media. <i>Transport in Porous Media</i> , 2021, 140, 107-141.	1.2	16
17	Determination of Vapor and Momentum Roughness Lengths Above an Undulating Soil Surface Based on PIV-Measured Velocity Profiles. <i>Water Resources Research</i> , 2021, 57, e2021WR029578.	1.7	1
18	Coupling staggered-grid and MPFA finite volume methods for free flow/porous-medium flow problems. <i>Journal of Computational Physics</i> , 2020, 401, 109012.	1.9	19

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19	A multiscale subvoxel perfusion model to estimate diffusive capillary wall conductivity in multiple sclerosis lesions from perfusion MRI data. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2020, 36, e3298.	1.0	7
20	A numerical modeling study on the influence of porosity changes during thermochemical heat storage. <i>Applied Energy</i> , 2020, 259, 114152.	5.1	11
21	Upscaled equations for two-phase flow in highly heterogeneous porous media: Varying permeability and porosity. <i>Advances in Water Resources</i> , 2020, 145, 103716.	1.7	3
22	Gas Component Transport Across the Soil-Atmosphere Interface for Gases of Different Density: Experiments and Modeling. <i>Water Resources Research</i> , 2020, 56, e2020WR027600.	1.7	8
23	A Hybrid-Dimensional Coupled Pore-Network/Free-Flow Model Including Pore-Scale Slip and Its Application to a Micromodel Experiment. <i>Transport in Porous Media</i> , 2020, 135, 243-270.	1.2	8
24	Influence of Radiation on Evaporation Rates: A Numerical Analysis. <i>Water Resources Research</i> , 2020, 56, e2020WR027332.	1.7	19
25	Obstacles, Interfacial Forms, and Turbulence: A Numerical Analysis of Soil-Water Evaporation Across Different Interfaces. <i>Transport in Porous Media</i> , 2020, 134, 275-301.	1.2	6
26	Modeling of Evaporation-Driven Multiple Salt Precipitation in Porous Media with a Real Field Application. <i>Geosciences (Switzerland)</i> , 2020, 10, 395.	1.0	4
27	Impact of groundwater flow on methane gas migration and retention in unconsolidated aquifers. <i>Journal of Contaminant Hydrology</i> , 2020, 230, 103619.	1.6	27
28	A new and consistent well model for one-phase flow in anisotropic porous media using a distributed source model. <i>Journal of Computational Physics</i> , 2020, 410, 109369.	1.9	4
29	Fronts in two-phase porous media flow problems: The effects of hysteresis and dynamic capillarity. <i>Studies in Applied Mathematics</i> , 2020, 144, 449-492.	1.1	11
30	Water Table Depth and Soil Salinization: From Pore-Scale Processes to Field-Scale Responses. <i>Water Resources Research</i> , 2020, 56, e2019WR026707.	1.7	45
31	Modeling tissue perfusion in terms of 1d-3d embedded mixed-dimension coupled problems with distributed sources. <i>Journal of Computational Physics</i> , 2020, 410, 109370.	1.9	19
32	A Locally-Refined Locally-Conservative Quadtree Finite-Volume Staggered-Grid Scheme. <i>Fluid Mechanics and Its Applications</i> , 2020, , 149-159.	0.1	0
33	Frackit: a framework for stochastic fracture network generation and analysis. <i>Journal of Open Source Software</i> , 2020, 5, 2291.	2.0	2
34	Upscaling of Coupled Free-Flow and Porous-Medium-Flow Processes. <i>Fluid Mechanics and Its Applications</i> , 2020, , 139-148.	0.1	0
35	Experimental and Numerical Studies of Saturation Overshoot during Infiltration into a Dry Soil. <i>Vadose Zone Journal</i> , 2019, 18, 1-13.	1.3	4
36	Hybrid Models for Simulating Blood Flow in Microvascular Networks. <i>Multiscale Modeling and Simulation</i> , 2019, 17, 1076-1102.	0.6	31

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37	A hybrid-dimensional discrete fracture model for non-isothermal two-phase flow in fractured porous media. <i>GEM - International Journal on Geomathematics</i> , 2019, 10, 1.	0.7	18
38	Development of Open-Source Porous Media Simulators: Principles and Experiences. <i>Transport in Porous Media</i> , 2019, 130, 337-361.	1.2	53
39	Impact of a Linear Array of Hydrophilic and Superhydrophobic Spheres on a Deep Water Pool. <i>Colloids and Interfaces</i> , 2019, 3, 29.	0.9	1
40	Microscopic velocity field measurements inside a regular porous medium adjacent to a low Reynolds number channel flow. <i>Physics of Fluids</i> , 2019, 31, .	1.6	39
41	On the Beaversâ€“Joseph Interface Condition for Non-parallel Coupled Channel Flow over a Porous Structure at High Reynolds Numbers. <i>Transport in Porous Media</i> , 2019, 128, 431-457.	1.2	23
42	An efficient coupling of free flow and porous media flow using the pore-network modeling approach. <i>Journal of Computational Physics: X</i> , 2019, 1, 100011.	1.1	22
43	Internal flow patterns of a droplet pinned to the hydrophobic surfaces of a confined microchannel using micro-PIV and VOF simulations. <i>Chemical Engineering Journal</i> , 2019, 370, 444-454.	6.6	27
44	Simulation of Surge Reduction Systems Using Dimensionally Reduced Models. <i>Journal of Hydraulic Engineering</i> , 2019, 145, .	0.7	5
45	Monotone nonlinear finite-volume method for challenging grids. <i>Computational Geosciences</i> , 2018, 22, 565-586.	1.2	27
46	Numerical Simulation of Turbulent Flow and Heat Transfer in a Three-Dimensional Channel Coupled with Flow Through Porous Structures. <i>Transport in Porous Media</i> , 2018, 122, 145-167.	1.2	22
47	Stable Propagation of Saturation Overshoots for Two-Phase Flow in Porous Media. <i>Transport in Porous Media</i> , 2018, 121, 621-641.	1.2	13
48	Numerical modelling of a peripheral arterial stenosis using dimensionally reduced models and kernel methods. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2018, 34, e3095.	1.0	20
49	Experimental and Numerical Study of Evaporation From Wavy Surfaces by Coupling Free Flow and Porous Media Flow. <i>Water Resources Research</i> , 2018, 54, 9096-9117.	1.7	13
50	Comparison of finite-volume schemes for diffusion problems. <i>Oil and Gas Science and Technology</i> , 2018, 73, 82.	1.4	23
51	A New Simulation Framework for Soilâ€“Root Interaction, Evaporation, Root Growth, and Solute Transport. <i>Vadose Zone Journal</i> , 2018, 17, 1-21.	1.3	37
52	Streamline method for resolving sharp fronts for complex two-phase flow in porous media. <i>Computational Geosciences</i> , 2018, 22, 1487-1502.	1.2	2
53	Multiscale formulation for coupled flow-heat equations arising from single-phase flow in fractured geothermal reservoirs. <i>Computational Geosciences</i> , 2018, 22, 1305-1322.	1.2	26
54	An Adaptive Multiphysics Model Coupling Vertical Equilibrium and Full Multidimensions for Multiphase Flow in Porous Media. <i>Water Resources Research</i> , 2018, 54, 4347-4360.	1.7	9

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55	Heat and water transport in soils and across the soil-atmosphere interface: 1. Theory and different model concepts. <i>Water Resources Research</i> , 2017, 53, 1057-1079.	1.7	67
56	Heat and water transport in soils and across the soil-atmosphere interface: 2. Numerical analysis. <i>Water Resources Research</i> , 2017, 53, 1080-1100.	1.7	37
57	Drying of a tape-cast layer: Numerical investigation of influencing parameters. <i>International Journal of Heat and Mass Transfer</i> , 2017, 108, 2229-2238.	2.5	7
58	Debates-Hypothesis testing in hydrology: A subsurface perspective. <i>Water Resources Research</i> , 2017, 53, 1784-1791.	1.7	9
59	Development of an experimental approach to study coupled soil-plant-atmosphere processes using plant analogs. <i>Water Resources Research</i> , 2017, 53, 3319-3340.	1.7	8
60	Heat release at the wetting front during capillary filling of cellulosic micro-substrates. <i>Journal of Colloid and Interface Science</i> , 2017, 504, 751-757.	5.0	13
61	Heterogeneity Effects on Evaporation-Induced Halite and Gypsum Co-precipitation in Porous Media. <i>Transport in Porous Media</i> , 2017, 118, 39-64.	1.2	10
62	Testing a thermo-chemo-hydro-geomechanical model for gas hydrate-bearing sediments using triaxial compression laboratory experiments. <i>Geochemistry, Geophysics, Geosystems</i> , 2017, 18, 3419-3437.	1.0	28
63	A Pseudo-Vertical Equilibrium Model for Slow Gravity Drainage Dynamics. <i>Water Resources Research</i> , 2017, 53, 10491-10507.	1.7	8
64	A discrete fracture model for two-phase flow in fractured porous media. <i>Advances in Water Resources</i> , 2017, 110, 335-348.	1.7	74
65	Monotone nonlinear finite-volume method for nonisothermal two-phase two-component flow in porous media. <i>International Journal for Numerical Methods in Fluids</i> , 2017, 84, 352-381.	0.9	45
66	TRANSPIRATION COOLING WITH LOCAL THERMAL NONEQUILIBRIUM: MODEL COMPARISON IN MULTIPHASE FLOW IN POROUS MEDIA. <i>Journal of Porous Media</i> , 2016, 19, 131-153.	1.0	7
67	Numerical modelling of evaporation in a ceramic layer in the tape casting process. <i>AIP Conference Proceedings</i> , 2016, , .	0.3	0
68	Numerical modelling of the flow in the resin infusion process on the REV scale: A feasibility study. <i>AIP Conference Proceedings</i> , 2016, , .	0.3	1
69	Finding a Balance between Accuracy and Effort For Modeling Biomineralization. <i>Energy Procedia</i> , 2016, 97, 379-386.	1.8	13
70	An Approach Towards a FEP-based Model for Risk Assessment for Hydraulic Fracturing Operations. <i>Energy Procedia</i> , 2016, 97, 387-394.	1.8	8
71	Kinetic Approach to Model Reactive Transport and Mixed Salt Precipitation in a Coupled Free-Flow-Porous-Media System. <i>Transport in Porous Media</i> , 2016, 114, 341-369.	1.2	20
72	Drying of a tape-cast layer: Numerical modelling of the evaporation process in a graded/layered material. <i>International Journal of Heat and Mass Transfer</i> , 2016, 103, 1144-1154.	2.5	12

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73	Lattice Boltzmann methods in porous media simulations: From laminar to turbulent flow. <i>Computers and Fluids</i> , 2016, 140, 247-259.	1.3	48
74	Experimental and Numerical Analysis of Air Trapping in a Porous Medium with Coarse Textured Inclusions. <i>Acta Geophysica</i> , 2016, 64, 2487-2509.	1.0	5
75	Investigating the Influence of the Initial Biomass Distribution and Injection Strategies on Biofilm-Mediated Calcite Precipitation in Porous Media. <i>Transport in Porous Media</i> , 2016, 114, 557-579.	1.2	29
76	Modeling drop dynamics at the interface between free and porous-medium flow using the mortar method. <i>International Journal of Heat and Mass Transfer</i> , 2016, 99, 660-671.	2.5	18
77	Numerical modeling of compensation mechanisms for peripheral arterial stenoses. <i>Computers in Biology and Medicine</i> , 2016, 70, 190-201.	3.9	7
78	Multi-rate time stepping schemes for hydro-geomechanical model for subsurface methane hydrate reservoirs. <i>Advances in Water Resources</i> , 2016, 91, 78-87.	1.7	18
79	Effect of Turbulence and Roughness on Coupled Porous-Medium/Free-Flow Exchange Processes. <i>Transport in Porous Media</i> , 2016, 114, 395-424.	1.2	27
80	Dimensionally reduced flow models in fractured porous media: crossings and boundaries. <i>Computational Geosciences</i> , 2015, 19, 1219-1230.	1.2	82
81	A revised model for microbially induced calcite precipitation: Improvements and new insights based on recent experiments. <i>Water Resources Research</i> , 2015, 51, 3695-3715.	1.7	75
82	Modeling two-phase flow in a micro-model with local thermal non-equilibrium on the Darcy scale. <i>International Journal of Heat and Mass Transfer</i> , 2015, 88, 822-835.	2.5	3
83	Non-isothermal, multi-phase, multi-component flows through deformable methane hydrate reservoirs. <i>Computational Geosciences</i> , 2015, 19, 1063-1088.	1.2	60
84	Novel approach for modeling kinetic interface-sensitive (KIS) tracers with respect to time-dependent interfacial area change for the optimization of supercritical carbon dioxide injection into deep saline aquifers. <i>International Journal of Greenhouse Gas Control</i> , 2015, 33, 145-153.	2.3	15
85	Multirate time integration for coupled saturated/unsaturated porous medium and free flow systems. <i>Computational Geosciences</i> , 2015, 19, 299-309.	1.2	35
86	Multi-physics modeling of non-isothermal compositional flow on adaptive grids. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 292, 16-34.	3.4	11
87	Free-Flow-Porous-Media Coupling for Evaporation-Driven Transport and Precipitation of Salt in Soil. <i>Transport in Porous Media</i> , 2015, 110, 251-280.	1.2	62
88	A Multi-scale Model for Mass Transport in Arteries and Tissue. <i>Lecture Notes in Computational Science and Engineering</i> , 2015, , 197-213.	0.1	2
89	Efficient Modeling of Flow and Transport in Porous Media Using Multi-physics and Multi-scale Approaches. , 2015, , 703-749.		4
90	Modeling and analysis of evaporation processes from porous media on the REV scale. <i>Water Resources Research</i> , 2014, 50, 1059-1079.	1.7	54

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91	Non-equilibrium in multiphase multicomponent flow in porous media: An evaporation example. International Journal of Heat and Mass Transfer, 2014, 74, 128-142.	2.5	26
92	Editorial: Deformation and transport phenomena in porous media. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2014, 94, 559-559.	0.9	0
93	Influence of heterogeneous air entry pressure on large scale unsaturated flow in porous media. Acta Geophysica, 2014, 62, 1179-1191.	1.0	5
94	Chemical osmosis in two-phase flow and salinity-dependent capillary pressures in rocks with microporosity. Water Resources Research, 2014, 50, 763-789.	1.7	5
95	Efficient multiphysics modelling with adaptive grid refinement using a MPFA method. Computational Geosciences, 2014, 18, 625-636.	1.2	22
96	Simultaneous thermal and optical imaging of two-phase flow in a micro-model. Lab on A Chip, 2014, 14, 2515.	3.1	12
97	Hydraulic fracturing in unconventional gas reservoirs: risks in the geological system, part 2. Environmental Earth Sciences, 2013, 70, 3855-3873.	1.3	112
98	Hydraulic fracturing in unconventional gas reservoirs: risks in the geological system part 1. Environmental Earth Sciences, 2013, 70, 3839-3853.	1.3	56
99	Numerical Investigation of Microbially Induced Calcite Precipitation as a Leakage Mitigation Technology. Energy Procedia, 2013, 40, 392-397.	1.8	16
100	Model coupling for multiphase flow in porous media. Advances in Water Resources, 2013, 51, 52-66.	1.7	49
101	Reduced one-dimensional modelling and numerical simulation for mass transport in fluids. International Journal for Numerical Methods in Fluids, 2013, 72, 135-156.	0.9	17
102	An adaptive multiscale approach for modeling two-phase flow in porous media including capillary pressure. Water Resources Research, 2013, 49, 8139-8159.	1.7	13
103	Efficient Modeling of Flow and Transport in Porous Media Using Multi-physics and Multi-scale Approaches. , 2013, , 1-43.		0
104	Multipoint flux approximation L-method in 3D: numerical convergence and application to two-phase flow through porous media. , 2013, , 39-80.		5
105	ViPLab: a virtual programming laboratory for mathematics and engineering. Interactive Technology and Smart Education, 2012, 9, 246-262.	3.8	9
106	Simulation of Infiltration Processes in the Unsaturated Zone Using a Multiscale Approach. Vadose Zone Journal, 2012, 11, vzt2011.0193.	1.3	8
107	Modeling Macroporous Soils with a Two-Phase Dual-Permeability Model. Transport in Porous Media, 2012, 95, 585-601.	1.2	19
108	Probabilistic exposure risk assessment with advective dispersive well vulnerability criteria. Advances in Water Resources, 2012, 36, 121-132.	1.7	33

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109	Thermodynamically constrained averaging theory approach for modeling flow and transport phenomena in porous medium systems: 9. Transition region models. <i>Advances in Water Resources</i> , 2012, 42, 71-90.	1.7	33
110	Influence of soil structure and root water uptake strategy on unsaturated flow in heterogeneous media. <i>Water Resources Research</i> , 2012, 48, .	1.7	36
111	Upscaling unsaturated flow in binary porous media with air entry pressure effects. <i>Water Resources Research</i> , 2012, 48, .	1.7	13
112	Darcy-scale modeling of microbially induced carbonate mineral precipitation in sand columns. <i>Water Resources Research</i> , 2012, 48, .	1.7	96
113	Numerical scheme for coupling two-phase compositional porous-media flow and one-phase compositional free flow. <i>IMA Journal of Applied Mathematics</i> , 2012, 77, 887-909.	0.8	42
114	Modeling Concentration Distribution and Deformation During Convection-Enhanced Drug Delivery into Brain Tissue. <i>Transport in Porous Media</i> , 2012, 92, 119-143.	1.2	70
115	A Coupled Discrete/Continuum Model for Describing Cancer-Therapeutic Transport in the Lung. <i>PLoS ONE</i> , 2012, 7, e31966.	1.1	43
116	ViPLab - A Virtual Programming Laboratory for Mathematics and Engineering. , 2011, , .		0
117	A coupling concept for two-phase compositional porous-medium and single-phase compositional free flow. <i>Water Resources Research</i> , 2011, 47, .	1.7	108
118	DuMux: DUNE for multi-{phase,component,scale,physics,} flow and transport in porous media. <i>Advances in Water Resources</i> , 2011, 34, 1102-1112.	1.7	258
119	A two-scale operator-splitting method for two-phase flow in porous media. <i>Advances in Water Resources</i> , 2011, 34, 1581-1596.	1.7	2
120	A concept for data-driven uncertainty quantification and its application to carbon dioxide storage in geological formations. <i>Advances in Water Resources</i> , 2011, 34, 1508-1518.	1.7	92
121	Pore-scale determination of parameters for macroscale modeling of evaporation processes in porous media. <i>Water Resources Research</i> , 2011, 47, .	1.7	18
122	Estimation of effective parameters for a two-phase flow problem in non-Gaussian heterogeneous porous media. <i>Journal of Contaminant Hydrology</i> , 2011, 120-121, 141-156.	1.6	17
123	An integrative approach to robust design and probabilistic risk assessment for CO2 storage in geological formations. <i>Computational Geosciences</i> , 2011, 15, 565-577.	1.2	68
124	Two-Phase Flow in Heterogeneous Porous Media with Non-Wetting Phase Trapping. <i>Transport in Porous Media</i> , 2011, 86, 27-47.	1.2	19
125	Convergence of the multipoint flux approximation method for homogeneous media on uniform grids. <i>Numerical Methods for Partial Differential Equations</i> , 2011, 27, 329-350.	2.0	3
126	A new approach for phase transitions in miscible multi-phase flow in porous media. <i>Advances in Water Resources</i> , 2011, 34, 957-966.	1.7	66



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127	Comparison of conductivity averaging methods for one-dimensional unsaturated flow in layered soils. <i>Advances in Water Resources</i> , 2011, 34, 1012-1025.	1.7	30
128	A study on pressure evolution in a channel system during CO <sub>2</sub> injection. <i>Energy Procedia</i> , 2011, 4, 3722-3729.	1.8	2
129	Sequential Model Coupling for Feasibility Studies of CO <sub>2</sub> Storage in Deep Saline Aquifers. <i>Oil and Gas Science and Technology</i> , 2011, 66, 93-103.	1.4	9
130	A model for transport of hydrogen sulfide in oil- and water-saturated porous media. <i>Computing and Visualization in Science</i> , 2010, 13, 265-273.	1.2	3
131	Numerical modeling of two-phase hysteresis combined with an interface condition for heterogeneous porous media. <i>Computational Geosciences</i> , 2010, 14, 273-287.	1.2	11
132	Modelling biofilm growth in the presence of carbon dioxide and water flow in the subsurface. <i>Advances in Water Resources</i> , 2010, 33, 762-781.	1.7	61
133	A contribution to risk analysis for leakage through abandoned wells in geological CO <sub>2</sub> storage. <i>Advances in Water Resources</i> , 2010, 33, 867-879.	1.7	46
134	Methods for predicting the spreading of steam below the water table during subsurface remediation. <i>Water Resources Research</i> , 2010, 46, .	1.7	11
135	Modeling gas-water processes in fractures with fracture flow properties obtained through upscaling. <i>Water Resources Research</i> , 2010, 46, .	1.7	11
136	An upscaled model for biofilm growth in a thin strip. <i>Water Resources Research</i> , 2010, 46, .	1.7	49
137	Uncertainty evaluation of mass discharge estimates from a contaminated site using a fully Bayesian framework. <i>Water Resources Research</i> , 2010, 46, .	1.7	62
138	Efficient Modeling of Flow and Transport in Porous Media Using Multiphysics and Multiscale Approaches. , 2010, , 417-457.		9
139	Geometrical interpretation of the multi-point flux approximation L <sup>2</sup> -method. <i>International Journal for Numerical Methods in Fluids</i> , 2009, 60, 1173-1199.	0.9	16
140	Multi-physics modeling of flow and transport in porous media using a downscaling approach. <i>Advances in Water Resources</i> , 2009, 32, 845-850.	1.7	5
141	A model for multiphase flow and transport in porous media including a phenomenological approach to account for deformation—a model concept and its validation within a code intercomparison study. <i>Computational Geosciences</i> , 2009, 13, 281-300.	1.2	8
142	Variational inequalities for modeling flow in heterogeneous porous media with entry pressure. <i>Computational Geosciences</i> , 2009, 13, 373-389.	1.2	18
143	A benchmark study on problems related to CO <sub>2</sub> storage in geologic formations. <i>Computational Geosciences</i> , 2009, 13, 409-434.	1.2	348
144	Investigations on CO <sub>2</sub> storage capacity in saline aquifers—Part 2: Estimation of storage capacity coefficients. <i>International Journal of Greenhouse Gas Control</i> , 2009, 3, 277-287.	2.3	93

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145	Investigations on CO2 storage capacity in saline aquifers. International Journal of Greenhouse Gas Control, 2009, 3, 263-276.	2.3	124
146	Estimation of CO2 storage capacity coefficients in geologic formations. Energy Procedia, 2009, 1, 2863-2870.	1.8	11
147	Comparison of cell- and vertex-centered discretization methods for flow in a two-dimensional discrete-fracture matrix system. Advances in Water Resources, 2009, 32, 1740-1755.	1.7	50
148	Black-Oil Simulations for Three-Component, Three-Phase Flow in Fractured Porous Media. SPE Journal, 2009, 14, 338-354.	1.7	121
149	From the pore scale to the lab scale: 3-D lab experiment and numerical simulation of drainage in heterogeneous porous media. Advances in Water Resources, 2008, 31, 1253-1268.	1.7	25
150	Drainage in heterogeneous sand columns with different geometric structures. Advances in Water Resources, 2008, 31, 1205-1220.	1.7	32
151	Dimensional analysis of two-phase flow including a rate-dependent capillary pressure saturation relationship. Advances in Water Resources, 2008, 31, 1137-1150.	1.7	45
152	Development of a simulation optimization model for multiphase systems in the subsurface: a challenge to real-world simulation optimization. Journal of Hydroinformatics, 2008, 10, 139-152.	1.1	6
153	Sequential Coupling of Models for Contaminant Spreading in the Vadose Zone. Vadose Zone Journal, 2008, 7, 721-731.	1.3	11
154	Effective Two-Phase Flow Models Including Trapping Effects at the Micro Scale. Mathematics in Industry, 2008, , 333-339.	0.1	0
155	Transfer of Modelling Concepts for Flow and Transport Processes in Porous Media From Subsurface Systems to Biological Tissues. , 2008, , .		0
156	Numerical Simulation of Multiphase Multicomponent Processes Considering Structural Alterations of Porous Media ,f a Phenomenological Model. , 2007, , 127-134.		1
157	Black-Oil Simulations for Three-Component Three-Phase Flow in Fractured Porous Media. , 2007, , .		7
158	Multi-scale modeling of three-phase three-component processes in heterogeneous porous media. Advances in Water Resources, 2007, 30, 2309-2325.	1.7	42
159	Effective equations for two-phase flow in porous media: the effect of trapping on the microscale. Transport in Porous Media, 2007, 69, 411-428.	1.2	32
160	CO2 leakage through an abandoned well: problem-oriented benchmarks. Computational Geosciences, 2007, 11, 103-115.	1.2	90
161	Dynamic capillary effects in heterogeneous porous media. Computational Geosciences, 2007, 11, 261-274.	1.2	54
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