

Ivars Neretnieks

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97
papers

1,872
citations

16
h-index

42
g-index

97
ext. papers

2,003
ext. citations

3.8
avg, IF

4.84
L-index

#	Paper	IF	Citations
97	Diffusion in the rock matrix: An important factor in radionuclide retardation?. <i>Journal of Geophysical Research</i> , 1980 , 85, 4379-4397		614
96	Flow channeling in heterogeneous fractured rocks. <i>Reviews of Geophysics</i> , 1998 , 36, 275-298	23.1	248
95	Exact solution of a model for diffusion in particles and longitudinal dispersion in packed beds. <i>AICHE Journal</i> , 1980 , 26, 686-690	3.6	174
94	Analysis of Some Laboratory Tracer Runs in Natural Fissures. <i>Water Resources Research</i> , 1985 , 21, 951-958	3.4	112
93	Hydrologic issues associated with nuclear waste repositories. <i>Water Resources Research</i> , 2015 , 51, 6923-6972	9.7	95
92	Shear-Induced Flow Channels in a Single Rock Fracture and Their Effect on Solute Transport. <i>Transport in Porous Media</i> , 2011 , 87, 503-523	3.1	57
91	A stochastic multi-channel model for solute transport--analysis of tracer tests in fractured rock. <i>Journal of Contaminant Hydrology</i> , 2002 , 55, 175-211	3.9	52
90	The Channel Network Model: A Tool for Transport Simulations in Fractured Media. <i>Ground Water</i> , 1999 , 37, 367-375	2.4	43
89	A Study of Strontium and Cesium Sorption on Granite. <i>Nuclear Technology</i> , 1982 , 59, 302-313	1.4	34
88	Solute transport in fractured rocks with stagnant water zone and rock matrix composed of different geological layers: Model development and simulations. <i>Water Resources Research</i> , 2013 , 49, 1709-1727	5.4	28
87	Channeling with diffusion into stagnant water and into a matrix in series. <i>Water Resources Research</i> , 2006 , 42,	5.4	25
86	Prediction of some in situ tracer tests with sorbing tracers using independent data. <i>Journal of Contaminant Hydrology</i> , 2003 , 61, 351-60	3.9	22
85	Atmospheric oxidation of the pyritic waste rock in Maardu, Estonia. 1 field study and modelling. <i>Environmental Geology</i> , 1999 , 39, 1-19		20
84	Radionuclide migration through fractured rock for arbitrary-length decay chain: Analytical solution and global sensitivity analysis. <i>Journal of Hydrology</i> , 2015 , 520, 448-460	6	18
83	Modelling of Emission and Re-emission of Volatile Organic Compounds from Building Materials with Indoor Air Applications. <i>Indoor Air</i> , 1993 , 3, 2-11	5.4	18
82	Atomistic simulations of cation hydration in sodium and calcium montmorillonite nanopores. <i>Journal of Chemical Physics</i> , 2017 , 147, 084705	3.9	17
81	The Effect of Hydrogen on Oxidative Dissolution of Spent Fuel. <i>Nuclear Technology</i> , 2002 , 138, 69-78	1.4	15

80	A synthesis of approaches for modelling coupled thermal-hydraulic-mechanical-chemical processes in a single novaculite fracture experiment. <i>Environmental Earth Sciences</i> , 2017 , 76, 1	2.9	13
79	A new approach to account for fracture aperture variability when modeling solute transport in fracture networks. <i>Water Resources Research</i> , 2013 , 49, 2241-2252	5.4	13
78	Solute transport along a single fracture in a porous rock: a simple analytical solution and its extension for modeling velocity dispersion. <i>Hydrogeology Journal</i> , 2018 , 26, 297-320	3.1	13
77	Stress-mediated closing of fractures: Impact of matrix diffusion. <i>Journal of Geophysical Research: Solid Earth</i> , 2014 , 119, 4149-4163	3.6	12
76	Some aspects of release and transport of gases in deep granitic rocks: possible implications for nuclear waste repositories. <i>Hydrogeology Journal</i> , 2013 , 21, 1701-1716	3.1	12
75	Atmospheric oxidation of the pyritic waste rock in Maardu, Estonia, 2: an assessment of aluminosilicate buffering potential. <i>Environmental Geology</i> , 2000 , 39, 560-566		12
74	The effect of stagnant water zones on retarding radionuclide transport in fractured rocks: An extension to the Channel Network Model. <i>Journal of Hydrology</i> , 2016 , 540, 1122-1135	6	11
73	Flow and Tracer Experiments in Crystalline Rocks: Results from Several Swedish in Situ Experiments. <i>Materials Research Society Symposia Proceedings</i> , 1985 , 50, 627		11
72	Solute transport through fractured rock: Radial diffusion into the rock matrix with several geological layers for an arbitrary length decay chain. <i>Journal of Hydrology</i> , 2016 , 536, 133-146	6	10
71	Exergetic efficiency of high-temperature-lift chemical heat pump (CHP) based on CaO/CO ₂ and CaO/H ₂ O working pairs. <i>International Journal of Energy Research</i> , 2013 , 37, 1122-1131	4.5	10
70	Development of approaches for modelling coupled thermal-hydraulic-mechanical-chemical processes in single granite fracture experiments. <i>Environmental Earth Sciences</i> , 2016 , 75, 1	2.9	10
69	Measuring sorption coefficients and BET surface areas on intact drillcore and crushed granite samples. <i>Radiochimica Acta</i> , 2008 , 96, 673-677	1.9	8
68	Some Aspects on the Use of Iron Canisters for HLW. <i>Materials Research Society Symposia Proceedings</i> , 1985 , 50, 411		8
67	Migration in a Single Fracture. <i>Materials Research Society Symposia Proceedings</i> , 1981 , 11, 529		8
66	The Effect Of A Passive Adsorption Sheet On Reducing Organic Pollutants In Indoor Air. <i>Indoor Air</i> , 1993 , 3, 12-19	5.4	7
65	Diffusion in Crystalline Rocks. <i>Materials Research Society Symposia Proceedings</i> , 1981 , 11, 509		7
64	Solute transport in a single fracture involving an arbitrary length decay chain with rock matrix comprising different geological layers. <i>Journal of Contaminant Hydrology</i> , 2014 , 164, 59-71	3.9	6
63	Filtering of Clay Colloids in Bentonite Detritus Material. <i>Chemical Engineering and Technology</i> , 2010 , 33, 1303-1310	2	6

62	Modelling Oxidative Dissolution of Spent Fuel. <i>Materials Research Society Symposia Proceedings</i> , 1996 , 465, 573		6
61	Sensitivity of the Radionuclide Release from a Repository to the Variability of Materials and Other Properties. <i>Nuclear Technology</i> , 1996 , 113, 316-326	1.4	6
60	Solute transport along a single fracture with a finite extent of matrix: A new simple solution and temporal moment analysis. <i>Journal of Hydrology</i> , 2018 , 562, 290-304	6	6
59	Neutralizing processes in leaching of solid waste: Modeling of interactions between solid waste and strong acid. <i>Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering</i> , 1998 , 33, 923-950	2.3	5
58	Simulation of Radionuclide Release from a Repository to the Biosphere: Using a Model-Coupling Concept. <i>Nuclear Technology</i> , 1998 , 122, 93-103	1.4	5
57	Migration in a Single Fracture in Granitic Rock. <i>Materials Research Society Symposia Proceedings</i> , 1983 , 26, 239		5
56	Removal of CU(II) and CR(III) from naturally contaminated loam by electromigration. <i>Journal of Environmental Science and Health Part A: Environmental Science and Engineering</i> , 1997 , 32, 1293-1308		4
55	A Coupled Model for Oxidative Dissolution of Spent Fuel and Transport of Radionuclides from an Initially Defective Canister. <i>Nuclear Technology</i> , 2001 , 135, 273-285	1.4	4
54	A Reactive Transport Model for Oxidative Dissolution of Spent Fuel and Release of Nuclides Within a Defective Canister. <i>Nuclear Technology</i> , 2002 , 137, 228-240	1.4	4
53	Diffusion in the Matrix of Granitic Rock. Field Test in the Stripa Mine. <i>Materials Research Society Symposia Proceedings</i> , 1981 , 11, 519		4
52	Fast method for simulation of radionuclide chain migration in dual porosity fracture rocks. <i>Journal of Contaminant Hydrology</i> , 2006 , 88, 269-88	3.9	3
51	Nuclear Waste Repositories in Crystalline Rock- an Overview of Flow and Nuclide Transport Mechanisms. <i>Materials Research Society Symposia Proceedings</i> , 1994 , 353, 7		3
50	Fluid and Solute Transport in a Network of Channels. <i>Materials Research Society Symposia Proceedings</i> , 1991 , 257, 691		3
49	Modelling of a Passive Adsorption Sheet to Purify Indoor Air. <i>Indoor Air</i> , 1993 , 3, 310-314	5.4	3
48	Diffusion in the Matrix of Granitic Rock Field Test in the Stripa Mine. <i>Materials Research Society Symposia Proceedings</i> , 1987 , 112, 189		3
47	The Swedish Repository for Low and Intermediate Reactor Waste- SFR. Radioactivity Release and Transport Calculations. <i>Materials Research Society Symposia Proceedings</i> , 1988 , 127, 537		3
46	The Impact of Alpha-Radiolysis on the Release of Radionuclides from Spent Fuel in a Geologic Repository. <i>Materials Research Society Symposia Proceedings</i> , 1983 , 26, 1009		3
45	A Note on the Use of Uranine Tracer to Visualize Radionuclide Migration Experiments: Some Observations and Problems. <i>Nuclear Technology</i> , 2019 , 205, 964-977	1.4	2

44	A new numerical method of considering local longitudinal dispersion in single fractures. <i>International Journal for Numerical and Analytical Methods in Geomechanics</i> , 2014 , 38, 20-36	4	2
43	A Conceivable Technique of Measuring Sorption Coefficients in Intact Rock Using an Electrical Potential Gradient as the Driving Force for Migration. <i>Materials Research Society Symposia Proceedings</i> , 2003 , 807, 736		2
42	Study of the Consequences of Secondary Water Radiolysis within and Surrounding a Defective Canister. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 663, 1		2
41	Tracer Tests in a Small Fracture Zone at Stripa. <i>Materials Research Society Symposia Proceedings</i> , 1991 , 257, 713		2
40	Channeling and its Potential Consequences for Radionuclides Transport. <i>Materials Research Society Symposia Proceedings</i> , 1987 , 112, 169		2
39	Diffusion in the Matrix of Granitic Rock Field Test in the Stripa Mine Part 2.. <i>Materials Research Society Symposia Proceedings</i> , 1983 , 26, 247		2
38	Porosities of and Diffusivities in Crystalline Rock and Fissure Coating Materials. <i>Materials Research Society Symposia Proceedings</i> , 1983 , 26, 835		2
37	Channel network concept: an integrated approach to visualize solute transport in fractured rocks. <i>Hydrogeology Journal</i> , 2019 , 27, 101-119	3.1	2
36	Modelling Biochemical Processes in Rocks: Analysis and exploratory simulations of competition of different processes important for ferrous mineral oxidation and oxygen depletion. <i>Materials Research Society Symposia Proceedings</i> , 2003 , 807, 164		1
35	Fluid Flow and Solute Transport through a Fracture Intersecting a Canister - Analytical Solutions for the Parallel Plate Model. <i>Materials Research Society Symposia Proceedings</i> , 2003 , 807, 831		1
34	Simulation of the Redox Buffer Depletion Rate in Landfills of Combustion Residue Waste Materials. <i>Water, Air, and Soil Pollution</i> , 2001 , 128, 223-242	2.6	1
33	Modelling of Biochemical Processes in Rocks: Oxygen Depletion by Pyrite Oxidation [Model Development and Exploratory Simulations. <i>Materials Research Society Symposia Proceedings</i> , 2002 , 757, 111.5.1		1
32	Formation factor measurements in granite in the laboratory [Comparison of through diffusion and electromigration techniques.. <i>Materials Research Society Symposia Proceedings</i> , 2002 , 757, 113.15.1		1
31	Determination of the Flow-Wetted Surface in Fractured Media. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 663, 1		1
30	Matrix Diffusion Measurements Through Diffusion versus Electrical Conductivity Measurements. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 663, 1		1
29	Sensitivity Analysis of Uranium Solubility Under Strongly Oxidizing Conditions. <i>Materials Research Society Symposia Proceedings</i> , 1999 , 556, 1001		1
28	Modelling of the Radionuclide Release from an Initially Defective Canister. <i>Materials Research Society Symposia Proceedings</i> , 1999 , 556, 591		1
27	A Note on Radionuclide Transport by Gas Bubbles. <i>Materials Research Society Symposia Proceedings</i> , 1996 , 465, 855		1

26	Fast Model for Calculating Steady State Release of Radionuclides from the Near Field. <i>Materials Research Society Symposia Proceedings</i> , 1991 , 257, 585		1
25	Channeling in Fractured Zones and its Potential Impact on the Transport of Radionuclides. <i>Materials Research Society Symposia Proceedings</i> , 1988 , 127, 779		1
24	Model for Near Field Migration. <i>Materials Research Society Symposia Proceedings</i> , 1981 , 11, 539		1
23	Hard-sphere fluid mediated interaction: a pressure expression with application of the weighted correlation approach. <i>Molecular Physics</i> , 2016 , 114, 599-607	1.7	1
22	Density-Driven Mass Transfer in Repositories for Nuclear Waste. <i>Nuclear Technology</i> , 2019 , 205, 819-829	1.4	1
21	Transport from the Canister to the Biosphere: Using an Integrated Near-and Far-Field Model. <i>Materials Research Society Symposia Proceedings</i> , 1996 , 465, 1037		0
20	Diffusivities in Crystalline Rock Materials. <i>Materials Research Society Symposia Proceedings</i> , 1985 , 50, 73		0
19	Predictive Modeling of a Simple Field Matrix Diffusion Experiment Addressing Radionuclide Transport in Fractured Rock. Is It So Straightforward?. <i>Nuclear Technology</i> , 1-15	1.4	0
18	Modelling of Solute Transport under Flow Conditions Varying in Time, Using the Channel Network Model. <i>Materials Research Society Symposia Proceedings</i> , 2003 , 807, 891		
17	Harmonisation of Site Characterisation and Performance Assessment Modelling - The Relative Importance of Surface Sorption and Matrix Interaction Phenomena. <i>Materials Research Society Symposia Proceedings</i> , 2003 , 807, 825		
16	Solute Transport in Fractured Rock. Testing a New and Simple Approach. <i>Materials Research Society Symposia Proceedings</i> , 2003 , 807, 885		
15	Revisiting the Advection-Dispersion Model Testing an Alternative. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 663, 1		
14	Surface Conductivity and Diffusion Models - Comparison and Evaluation -. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 663, 1		
13	Formation Factor Determinations by In-Situ Resistivity Logging. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 663, 1		
12	The Influence of Ligands and Precipitates on the Release of Nuclides from the Near Field under Natural Repository Conditions. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 663, 1		
11	The Channel Network Model and Field Applications. <i>Materials Research Society Symposia Proceedings</i> , 1999 , 556, 721		
10	A Study of Rock Matrix Diffusion Properties by Electrical Conductivity Measurements. <i>Materials Research Society Symposia Proceedings</i> , 1999 , 556, 767		
9	A Channel-Network-Model for Radionuclide Transport in Fractured Rock-Testing Against Field Data. <i>Materials Research Society Symposia Proceedings</i> , 1994 , 353, 395		

- 8 Radionuclide Release from the Kbs-3 Repository-Sensitivity to the Variability of Materials and Other Properties. *Materials Research Society Symposia Proceedings*, **1994**, 353, 511
- 7 Development of A Model for Handling the Movement of Redox Fronts and Other Sharp Reaction Fronts. *Materials Research Society Symposia Proceedings*, **1991**, 257, 591
- 6 Some Important Mechanisms and Processes in the Near Field of the Swedish Repository for Spent Nuclear Fuel. *Materials Research Society Symposia Proceedings*, **1992**, 294, 675
- 5 An Integrated Approach to the Description of Radionuclide Release and Transport in the Geosphere. *Materials Research Society Symposia Proceedings*, **1983**, 26, 269
- 4 Radionuclide Transport Modelling in Fissured Zones and Channels. *Materials Research Society Symposia Proceedings*, **1985**, 50, 641
- 3 Model for Far Field Migration. *Materials Research Society Symposia Proceedings*, **1981**, 11, 549
- 2 Leach Rates of High Level Waste and Spent Fuel. Limiting Rates as Determined by Backfill and Bedrock Conditions. *Materials Research Society Symposia Proceedings*, **1981**, 11, 559
- 1 Visualization of Mass Transfer Between Source and Seeping Water in a Variable Aperture Fracture Impact of Tracer Density. *Nuclear Technology*, **2020**, 206, 1553-1565 1.4