

Ivars Neretnieks

List of Publications by Year in descending order

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97
papers

2,282
citations

430442

18
h-index

214527

47
g-index

97
all docs

97
docs citations

97
times ranked

1223
citing authors

#	ARTICLE	IF	CITATIONS
1	Diffusion in the rock matrix: An important factor in radionuclide retardation?. Journal of Geophysical Research, 1980, 85, 4379-4397.	3.3	693
2	Flow channeling in heterogeneous fractured rocks. Reviews of Geophysics, 1998, 36, 275-298.	9.0	309
3	Exact solution of a model for diffusion in particles and longitudinal dispersion in packed beds. AIChE Journal, 1980, 26, 686-690.	1.8	206
4	Hydrologic issues associated with nuclear waste repositories. Water Resources Research, 2015, 51, 6923-6972.	1.7	153
5	Analysis of Some Laboratory Tracer Runs in Natural Fissures. Water Resources Research, 1985, 21, 951-958.	1.7	121
6	A stochastic multi-channel model for solute transport – analysis of tracer tests in fractured rock. Journal of Contaminant Hydrology, 2002, 55, 175-211.	1.6	64
7	Shear-Induced Flow Channels in a Single Rock Fracture and Their Effect on Solute Transport. Transport in Porous Media, 2011, 87, 503-523.	1.2	63
8	The Channel Network Model-A Tool for Transport Simulations in Fractured Media. Ground Water, 1999, 37, 367-375.	0.7	49
9	A Study of Strontium and Cesium Sorption on Granite. Nuclear Technology, 1982, 59, 302-313.	0.7	41
10	Channeling with diffusion into stagnant water and into a matrix in series. Water Resources Research, 2006, 42, .	1.7	36
11	Solute transport in fractured rocks with stagnant water zone and rock matrix composed of different geological layers – Model development and simulations. Water Resources Research, 2013, 49, 1709-1727.	1.7	36
12	Radionuclide migration through fractured rock for arbitrary-length decay chain: Analytical solution and global sensitivity analysis. Journal of Hydrology, 2015, 520, 448-460.	2.3	26
13	Modelling of Emission and Re-emission of Volatile Organic Compounds from Building Materials with Indoor Air Applications. Indoor Air, 1993, 3, 2-11.	2.0	25
14	Prediction of some in situ tracer tests with sorbing tracers using independent data. Journal of Contaminant Hydrology, 2003, 61, 351-360.	1.6	25
15	Atmospheric oxidation of the pyritic waste rock in Maardu, Estonia. 1 field study and modelling. Environmental Geology, 1999, 39, 1-19.	1.2	22
16	Atomistic simulations of cation hydration in sodium and calcium montmorillonite nanopores. Journal of Chemical Physics, 2017, 147, 084705.	1.2	22
17	Some aspects of release and transport of gases in deep granitic rocks: possible implications for nuclear waste repositories. Hydrogeology Journal, 2013, 21, 1701-1716.	0.9	19
18	Solute transport through fractured rock: Radial diffusion into the rock matrix with several geological layers for an arbitrary length decay chain. Journal of Hydrology, 2016, 536, 133-146.	2.3	19

#	ARTICLE	IF	CITATIONS
19	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.	0.9	19
20	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.	1.2	18
21	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.	1.7	17
22	The Effect of Hydrogen on Oxidative Dissolution of Spent Fuel. <i>Nuclear Technology</i> , 2002, 138, 69-78.	0.7	16
23	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.	2.3	16
24	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.	1.3	15
25	Stress-mediated closing of fractures: Impact of matrix diffusion. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 4149-4163.	1.4	13
26	Development of approaches for modelling coupled thermal-hydraulic-mechanical-chemical processes in single granite fracture experiments. <i>Environmental Earth Sciences</i> , 2016, 75, 1.	1.3	13
27	Diffusion in Crystalline Rocks. <i>Materials Research Society Symposia Proceedings</i> , 1981, 11, 509.	0.1	12
28	Flow and Tracer Experiments in Crystalline Rocks: Results from Several Swedish in Situ Experiments. <i>Materials Research Society Symposia Proceedings</i> , 1985, 50, 627.	0.1	12
29	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.	2.2	11
30	Measuring sorption coefficients and BET surface areas on intact drillcore and crushed granite samples. <i>Radiochimica Acta</i> , 2008, 96, 673-677.	0.5	10
31	Some Aspects on the Use of Iron Canisters for HLW. <i>Materials Research Society Symposia Proceedings</i> , 1985, 50, 411.	0.1	9
32	The Effect Of A Passive Adsorption Sheet On Reducing Organic Pollutants In Indoor Air. <i>Indoor Air</i> , 1993, 3, 12-19.	2.0	9
33	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.	1.6	9
34	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.	2.3	9
35	Migration in a Single Fracture. <i>Materials Research Society Symposia Proceedings</i> , 1981, 11, 529.	0.1	8
36	Filtering of Clay Colloids in Bentonite Detritus Material. <i>Chemical Engineering and Technology</i> , 2010, 33, 1303-1310.	0.9	8

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37	Diffusion in the Matrix of Granitic Rock. Field Test in the Stripa Mine. Materials Research Society Symposia Proceedings, 1981, 11, 519.	0.1	7
38	Sensitivity of the Radionuclide Release from a Repository to the Variability of Materials and Other Properties. Nuclear Technology, 1996, 113, 316-326.	0.7	7
39	Simulation of Radionuclide Release from a Repository to the Biosphere: Using a Model-Coupling Concept. Nuclear Technology, 1998, 122, 93-103.	0.7	7
40	Channel network concept: an integrated approach to visualize solute transport in fractured rocks. Hydrogeology Journal, 2019, 27, 101-119.	0.9	7
41	Modelling Oxidative Dissolution of Spent Fuel. Materials Research Society Symposia Proceedings, 1996, 465, 573.	0.1	6
42	Migration in a Single Fracture in Granitic Rock. Materials Research Society Symposia Proceedings, 1983, 26, 239.	0.1	5
43	Removal of CU(II) and CR(III) from naturally contaminated loam by electromigration. Journal of Environmental Science and Health Part A: Environmental Science and Engineering, 1997, 32, 1293-1308.	0.1	5
44	Neutralizing processes in leaching of solid waste: Modeling of interactions between solid waste and strong acid. Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering, 1998, 33, 923-950.	0.9	5
45	The Impact of Alpha-Radiolysis on the Release of Radionuclides from Spent Fuel in a Geologic Repository. Materials Research Society Symposia Proceedings, 1983, 26, 1009.	0.1	4
46	Porosities of and Diffusivities in Crystalline Rock and Fissure Coating Materials. Materials Research Society Symposia Proceedings, 1983, 26, 835.	0.1	4
47	Diffusion in the Matrix of Granitic Rock Field Test in the Stripa Mine. Materials Research Society Symposia Proceedings, 1987, 112, 189.	0.1	4
48	Modelling of a Passive Adsorption Sheet to Purify Indoor Air. Indoor Air, 1993, 3, 310-314.	2.0	4
49	A Coupled Model for Oxidative Dissolution of Spent Fuel and Transport of Radionuclides from an Initially Defective Canister. Nuclear Technology, 2001, 135, 273-285.	0.7	4
50	A Reactive Transport Model for Oxidative Dissolution of Spent Fuel and Release of Nuclides Within a Defective Canister. Nuclear Technology, 2002, 137, 228-240.	0.7	4
51	Fast method for simulation of radionuclide chain migration in dual porosity fracture rocks. Journal of Contaminant Hydrology, 2006, 88, 269-288.	1.6	4
52	Density-Driven Mass Transfer in Repositories for Nuclear Waste. Nuclear Technology, 2019, 205, 819-829.	0.7	4
53	Predictive Modeling of a Simple Field Matrix Diffusion Experiment Addressing Radionuclide Transport in Fractured Rock. Is It So Straightforward?. Nuclear Technology, 2022, 208, 1059-1073.	0.7	4
54	The Swedish Repository for Low and Intermediate Reactor Waste- SFR. Radioactivity Release and Transport Calculations. Materials Research Society Symposia Proceedings, 1988, 127, 537.	0.1	3

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55	Fluid and Solute Transport in a Network of Channels. Materials Research Society Symposia Proceedings, 1991, 257, 691.	0.1	3
56	Nuclear Waste Repositories in Crystalline Rock- an Overview of Flow and Nuclide Transport Mechanisms. Materials Research Society Symposia Proceedings, 1994, 353, 7.	0.1	3
57	Model for Near Field Migration. Materials Research Society Symposia Proceedings, 1981, 11, 539.	0.1	2
58	Diffusion in the Matrix of Granitic Rock Field Test in the Stripa Mine Part 2.. Materials Research Society Symposia Proceedings, 1983, 26, 247.	0.1	2
59	Channeling and its Potential Consequences for Radionuclides Transport. Materials Research Society Symposia Proceedings, 1987, 112, 169.	0.1	2
60	Tracer Tests in a Small Fracture Zone at Stripa. Materials Research Society Symposia Proceedings, 1991, 257, 713.	0.1	2
61	A Note on Radionuclide Transport by Gas Bubbles. Materials Research Society Symposia Proceedings, 1996, 465, 855.	0.1	2
62	Study of the Consequences of Secondary Water Radiolysis within and Surrounding a Defective Canister. Materials Research Society Symposia Proceedings, 2000, 663, 1.	0.1	2
63	Modelling Biochemical Processes in Rocks: Analysis and exploratory simulations of competition of different processes important for ferrous mineral oxidation and oxygen depletion. Materials Research Society Symposia Proceedings, 2003, 807, 164.	0.1	2
64	A Conceivable Technique of Measuring Sorption Coefficients in Intact Rock Using an Electrical Potential Gradient as the Driving Force for Migration. Materials Research Society Symposia Proceedings, 2003, 807, 736.	0.1	2
65	A new numerical method of considering local longitudinal dispersion in single fractures. International Journal for Numerical and Analytical Methods in Geomechanics, 2014, 38, 20-36.	1.7	2
66	A Note on the Use of Uranine Tracer to Visualize Radionuclide Migration Experiments: Some Observations and Problems. Nuclear Technology, 2019, 205, 964-977.	0.7	2
67	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.	0.1	1
68	Diffusivities in Crystalline Rock Materials. Materials Research Society Symposia Proceedings, 1985, 50, 73.	0.1	1
69	Channeling in Fractured Zones and its Potential Impact on the Transport of Radionuclides. Materials Research Society Symposia Proceedings, 1988, 127, 779.	0.1	1
70	Fast Model for Calculating Steady State Release of Radionuclides from the Near Field. Materials Research Society Symposia Proceedings, 1991, 257, 585.	0.1	1
71	Transport from the Canister to the Biosphere: Using an Integrated Near-and Far-Field Model. Materials Research Society Symposia Proceedings, 1996, 465, 1037.	0.1	1
72	Sensitivity Analysis of Uranium Solubility Under Strongly Oxidizing Conditions. Materials Research Society Symposia Proceedings, 1999, 556, 1001.	0.1	1

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73	Modelling of the Radionuclide Release from an Initially Defective Canister. Materials Research Society Symposia Proceedings, 1999, 556, 591.	0.1	1
74	The Channel Network Model and Field Applications. Materials Research Society Symposia Proceedings, 1999, 556, 721.	0.1	1
75	Determination of the Flow-Wetted Surface in Fractured Media. Materials Research Society Symposia Proceedings, 2000, 663, 1.	0.1	1
76	Matrix Diffusion Measurements " Through Diffusion versus Electrical Conductivity Measurements. Materials Research Society Symposia Proceedings, 2000, 663, 1.	0.1	1
77	Simulation of the Redox Buffer Depletion Rate in Landfills of Combustion Residue Waste Materials. Water, Air, and Soil Pollution, 2001, 128, 223-242.	1.1	1
78	Modelling of Biochemical Processes in Rocks: Oxygen Depletion by Pyrite Oxidation " Model Development and Exploratory Simulations. Materials Research Society Symposia Proceedings, 2002, 757, I11.5.1.	0.1	1
79	Formation factor measurements in granite in the laboratory " Comparison of through diffusion and electromigration techniques.. Materials Research Society Symposia Proceedings, 2002, 757, I13.15.1.	0.1	1
80	Fluid Flow and Solute Transport through a Fracture Intersecting a Canister - Analytical Solutions for the Parallel Plate Model. Materials Research Society Symposia Proceedings, 2003, 807, 831.	0.1	1
81	Hard-sphere fluid mediated interaction: a pressure expression with application of the weighted correlation approach. Molecular Physics, 2016, 114, 599-607.	0.8	1
82	Model for Far Field Migration. Materials Research Society Symposia Proceedings, 1981, 11, 549.	0.1	0
83	An Integrated Approach to the Description of Radionuclide Release and Transport in the Geosphere. Materials Research Society Symposia Proceedings, 1983, 26, 269.	0.1	0
84	Radionuclide Transport Modelling in Fissured Zones and Channels. Materials Research Society Symposia Proceedings, 1985, 50, 641.	0.1	0
85	Development of A Model for Handling the Movement of Redox Fronts and Other Sharp Reaction Fronts. Materials Research Society Symposia Proceedings, 1991, 257, 591.	0.1	0
86	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.	0.1	0
87	A Channel-Network-Model for Radionuclide Transport in Fractured Rock-Testing Against Field Data. Materials Research Society Symposia Proceedings, 1994, 353, 395.	0.1	0
88	Radionuclide Release from the Kbs-3 Repository-Sensitivity to the Variability of Materials and Other Properties. Materials Research Society Symposia Proceedings, 1994, 353, 511.	0.1	0
89	A Study of Rock Matrix Diffusion Properties by Electrical Conductivity Measurements. Materials Research Society Symposia Proceedings, 1999, 556, 767.	0.1	0
90	Revisiting the Advection-Dispersion Model Testing an Alternative. Materials Research Society Symposia Proceedings, 2000, 663, 1.	0.1	0

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91	Surface Conductivity and Diffusion Models - Comparison and Evaluation -. Materials Research Society Symposia Proceedings, 2000, 663, 1.	0.1	0
92	Formation Factor Determinations by In-Situ Resistivity Logging. Materials Research Society Symposia Proceedings, 2000, 663, 1.	0.1	0
93	The Influence of Ligands and Precipitates on the Release of Nuclides from the Near Field under Natural Repository Conditions. Materials Research Society Symposia Proceedings, 2000, 663, 1.	0.1	0
94	Modelling of Solute Transport under Flow Conditions Varying in Time, Using the Channel Network Model. Materials Research Society Symposia Proceedings, 2003, 807, 891.	0.1	0
95	Harmonisation of Site Characterisation and Performance Assessment Modelling - The Relative Importance of Surface Sorption and Matrix Interaction Phenomena. Materials Research Society Symposia Proceedings, 2003, 807, 825.	0.1	0
96	Solute Transport in Fractured Rock. Testing a New and Simple Approach. Materials Research Society Symposia Proceedings, 2003, 807, 885.	0.1	0
97	Visualization of Mass Transfer Between Source and Seeping Water in a Variable Aperture Fracture – Impact of Tracer Density. Nuclear Technology, 2020, 206, 1553-1565.	0.7	0