Kurt Roth

List of Publications by Year
in descending order

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37 papers	1,261 citations	516710 16 h-index	414414 32 g-index
50 all docs	50 docs citations	50 times ranked	1493 citing authors

#	Article	IF	Citations
1	Calibration of time domain reflectometry for water content measurement using a composite dielectric approach. Water Resources Research, 1990, 26, 2267-2273.	4.2	310
2	Steady State Flow in an Unsaturated, Two-Dimensional, Macroscopically Homogeneous, Miller-Similar Medium. Water Resources Research, 1995, 31, 2127-2140.	4.2	135
3	Use of dielectric spectroscopy to estimate ice content in frozen porous media. Water Resources Research, 2004, 40, .	4.2	85
4	Quantifying the thermal dynamics of a permafrost site near Ny-Ã…lesund, Svalbard. Water Resources Research, 2001, 37, 2901-2914.	4.2	82
5	Continuous and simultaneous measurement of reflector depth and average soil-water content with multichannel ground-penetrating radar. Geophysics, 2008, 73, J15-J23.	2.6	73
6	PeRL: aÂcircum-Arctic Permafrost Region Pond andÂLakeÂdatabase. Earth System Science Data, 2017, 9, 317-348.	9.9	62
7	Seasonal snow cover on frozen ground: Energy balance calculations of a permafrost site near Ny-Ã…lesund, Spitsbergen. Journal of Geophysical Research, 2003, 108, ALT 4-1.	3.3	55
8	A 20-year record (1998â€“2017) of permafrost, active layer and meteorological conditions at a high Arctic permafrost research site (Bayelva, Spitsbergen). Earth System Science Data, 2018, 10, 355-390.	9.9	47
9	Water, heat and solute dynamics of a mud boil, Spitsbergen. Geomorphology, 2008, 95, 61-73.	2.6	41
10	Virtual Soils: Assessment of the Effects of Soil Structure on the Hydraulic Behavior of Cultivated Soils. Vadose Zone Journal, 2012, 11, vzj2011.0174.	2.2	29
11	Mapping Permafrost Features that Influence the Hydrological Processes of a Thermokarst Lake on the Qinghaiâ€Tibet Plateau, China. Permafrost and Periglacial Processes, 2014, 25, 60-68.	3.4	28
12	Size Distributions of Arctic Waterbodies Reveal Consistent Relations in Their Statistical Moments in Space and Time. Frontiers in Earth Science, 2019, 7, .	1.8	25
13	EnKF with closed-eye period â€“ towards a consistent aggregation of information in soil hydrology. Hydrology and Earth System Sciences, 2016, 20, 4999-5014.	4.9	22
14	Effects of stratified active layers on high-altitude permafrost warming: a case study on the Qinghaiâ€“Tibet Plateau. Cryosphere, 2016, 10, 1591-1603.	3.9	22
15	Inflation method for ensemble Kalman filter in soil hydrology. Hydrology and Earth System Sciences, 2018, 22, 4921-4934.	4.9	22
16	Permafrost â€“ Physical Aspects, Carbon Cycling, Databases and Uncertainties. , 2012, , 159-185.		20
17	Velocity Field Estimation on DensityâEDriven Solute Transport With a Convolutional Neural Network. Water Resources Research, 2019, 55, 7275-7293.	4.2	20
18	Estimation of Temporal Changes of Volumetric Soil Water Content from Ground-Penetrating Radar Reflections. Subsurface Sensing Technologies and Applications, 2005, 6, 207-218.	0.9	19

#	Article	IF	Citations
19	Coupling of groundwater and surface water at Lake Willersinnweiher: Groundwater modeling and tracer studies. Aquatic Sciences, 2007, 69, 138-152.	1.5	18
20	Inverting surface GPR data using FDTD simulation and automatic detection of reflections to estimate subsurface water content and geometry. Geophysics, 2012, 77, H45-H55.	2.6	16
21	Time domain reflectometry as a field method for measuring water content and soil water electrical conductivity at a continuous permafrost site. Permafrost and Periglacial Processes, 1997, 8, 359-370.	3.4	15
22	Quantifying permafrost patterns using Minkowski densities. Permafrost and Periglacial Processes, 2005, 16, 277-290.	3.4	14
23	Soil hydraulic material properties and layered architecture from time-lapse GPR. Hydrology and Earth System Sciences, 2018, 22, 2551-2573.	4.9	13
24	Ground-penetrating radar for monitoring the distribution of near-surface soil water content in the GurbantÃ¼nggÃ¼t Desert. Environmental Earth Sciences, 2013, 70, 2883-2893.	2.7	12
25	A new computational technique for processing transmission-line measurements to determine dispersive dielectric properties. Geophysics, 2006, 71, K31-K35.	2.6	11
26	Optimization of multi-channel ground-penetrating radar for quantifying field-scale soil water dynamics. Journal of Applied Geophysics, 2012, 82, 101-109.	2.1	11
27	Covariance resampling for particle filter â€“ state and parameter estimation for soil hydrology. Hydrology and Earth System Sciences, 2019, 23, 1163-1178.	4.9	11
28	Effect of unrepresented model errors on estimated soil hydraulic material properties. Hydrology and Earth System Sciences, 2017, 21, 4301-4322.	4.9	7
29	On the reliability of current GPR ground wave methods for determining near-surface water contents. , 2011, , .		6
30	Challenges with effective representations of heterogeneity in soil hydrology based on local water content measurements. Vadose Zone Journal, 2020, 19, e20040.	2.2	6
31	Efficient estimation of effective hydraulic properties of stratal undulating surface layer using time-lapse multi-channel GPR. Hydrology and Earth System Sciences, 2019, 23, 3653-3663.	4.9	5
32	Observation of volumetric water content and reflector depth with multichannel ground-penetrating radar in an artificial sand volume. , 2011, , .		4
33	Multi-channel GPR to assess the influence of shallow structural heterogeneity on spatio-temporal variations of near-surface soil water content. , 2012, , .		3
34	Exploring spatial patterns of soil water content in the Urumqi region with Ground-Penetrating Radar. , 2012, , .		2
35	<i>STH-net:</i> a soil monitoring network for process-based hydrological modelling from the pedon to the hillslope scale. Earth System Science Data, 2021, 13, 2529-2539.	9.9	2
36	Boosting Group-Level Synergies by Using a Shared Modeling Framework. Lecture Notes in Computer Science, 2020, , 442-456.	1.3	2

#	Article	IF	Citations
37	Technical Note: Sequential ensemble data assimilation in convergent and divergent systems. Hydrology and Earth System Sciences, 2021, 25, 3319-3329.	4.9	1