Harry Vereecken

List of Publications by Citations

647 papers	20,760 citations	69 h-index	111 g-index
752 ext. papers	23,727 ext. citations	4.6 avg, IF	7.04 L-index

#	Paper	IF	Citations
647	ESTIMATING THE SOIL MOISTURE RETENTION CHARACTERISTIC FROM TEXTURE, BULK DENSITY, AND CARBON CONTENT. *Soil Science*, **1989**, 148, 389-403	0.9	514
646	On the value of soil moisture measurements in vadose zone hydrology: A review. *Water Resources Research*, **2008**, 44,	5.4	423
645	A Network of Terrestrial Environmental Observatories in Germany. *Vadose Zone Journal*, **2011**, 10, 955-973	2.7	332
644	Imaging and characterisation of subsurface solute transport using electrical resistivity tomography (ERT) and equivalent transport models. *Journal of Hydrology*, **2002**, 267, 125-146	6	315
643	Modeling Soil Processes: Review, Key Challenges, and New Perspectives. *Vadose Zone Journal*, **2016**, 15, vzj2015.09.0131	2.7	311
642	On the spatio-temporal dynamics of soil moisture at the field scale. *Journal of Hydrology*, **2014**, 516, 76-96	3.6	275
641	Using Pedotransfer Functions to Estimate the van Genuchten-Mualem Soil Hydraulic Properties: A Review. *Vadose Zone Journal*, **2010**, 9, 795-820	2.7	267
640	Mobility and leaching of glyphosate: a review. *Pest Management Science*, **2005**, 61, 1139-51	4.6	257
639	Potential of Wireless Sensor Networks for Measuring Soil Water Content Variability. *Vadose Zone Journal*, **2010**, 9, 1002-1013	2.7	255
638	Use of a Three-Dimensional Detailed Modeling Approach for Predicting Root Water Uptake. *Vadose Zone Journal*, **2008**, 7, 1079-1088	2.7	248
637	Imaging and characterisation of subsurface solute transport using electrical resistivity tomography (ERT) and equivalent transport models. *Journal of Hydrology*, **2002**, 267, 125-146	6	236
636	Evaluation of a low-cost soil water content sensor for wireless network applications. *Journal of Hydrology*, **2007**, 344, 32-42	6	223
635	Hydraulic parameter estimation by remotely-sensed top soil moisture observations with the particle filter. *Journal of Hydrology*, **2011**, 399, 410-421	6	220
634	Seasonal and event dynamics of spatial soil moisture patterns at the small catchment scale. *Water Resources Research*, **2012**, 48,	5.4	202
633	Effect of gamma-sterilization and autoclaving on soil organic matter structure as studied by solid state NMR, UV and fluorescence spectroscopy. *European Journal of Soil Science*, **2008**, 59, 540-550	3.4	200
632	Review of Dispersivities for Transport Modeling in Soils. *Vadose Zone Journal*, **2007**, 6, 29-52	2.7	200
631	ESTIMATING UNSATURATED HYDRAULIC CONDUCTIVITY FROM EASILY MEASURED SOIL PROPERTIES. *Soil Science*, **1990**, 149, 1-12	0.9	190

630	Pedotransfer Functions in Earth System Science: Challenges and Perspectives. *Reviews of Geophysics*, **2017**, 55, 1199-1256	23.1	186
629	Upscaling Hydraulic Properties and Soil Water Flow Processes in Heterogeneous Soils: A Review. *Vadose Zone Journal*, **2007**, 6, 1-28	2.7	185
628	Proof of concept of regional scale hydrologic simulations at hydrologic resolution utilizing massively parallel computer resources. *Water Resources Research*, **2010**, 46,	5.4	156
627	Mapping the spatial variation of soil water content at the field scale with different ground penetrating radar techniques. *Journal of Hydrology*, **2007**, 340, 205-216	6	153
626	Explaining soil moisture variability as a function of mean soil moisture: A stochastic unsaturated flow perspective. *Geophysical Research Letters*, **2007**, 34,	4.9	153
625	Sensitivity of the transport and retention of stabilized silver nanoparticles to physicochemical factors. *Water Research*, **2013**, 47, 2572-82	12.5	149
624	SMOS soil moisture assimilation for improved hydrologic simulation in the Murray Darling Basin, Australia. *Remote Sensing of Environment*, **2015**, 168, 146-162	13.2	148
623	Temporal Stability of Soil Water Contents: A Review of Data and Analyses. *Vadose Zone Journal*, **2012**, 11, vzj2011.0178	2.7	142
622	A review of chemical reactions of nitrification intermediates and their role in nitrogen cycling and nitrogen trace gas formation in soil. *European Journal of Soil Science*, **2016**, 67, 23-39	3.4	136
621	Stimulation of N O emission by manure application to agricultural soils may largely offset carbon benefits: a global meta-analysis. *Global Change Biology*, **2017**, 23, 4068-4083	11.4	135
620	Accuracy of the cosmic-ray soil water content probe in humid forest ecosystems: The worst case scenario. *Water Resources Research*, **2013**, 49, 5778-5791	5.4	129
619	Revisiting Vereecken Pedotransfer Functions: Introducing a Closed-Form Hydraulic Model. *Vadose Zone Journal*, **2009**, 8, 86-95	2.7	129
618	Transport and retention of multi-walled carbon nanotubes in saturated porous media: effects of input concentration and grain size. *Water Research*, **2013**, 47, 933-44	12.5	127
617	Ground, Proximal, and Satellite Remote Sensing of Soil Moisture. *Reviews of Geophysics*, **2019**, 57, 530-616	23.1	125
616	Impact of sulfadiazine and chlorotetracycline on soil bacterial community structure and respiratory activity. *Soil Biology and Biochemistry*, **2006**, 38, 2372-2380	7.5	123
615	Analysis of air-launched ground-penetrating radar techniques to measure the soil surface water content. *Water Resources Research*, **2006**, 42,	5.4	120
614	Quantitative imaging of solute transport in an unsaturated and undisturbed soil monolith with 3-D ERT and TDR. *Water Resources Research*, **2008**, 44,	5.4	118
613	Soil hydrology: Recent methodological advances, challenges, and perspectives. *Water Resources Research*, **2015**, 51, 2616-2633	5.4	109

612	20 years of long-term atrazine monitoring in a shallow aquifer in western Germany. *Water Research*, **2014**, 50, 294-306	12.5	105
611	Retention and remobilization of stabilized silver nanoparticles in an undisturbed loamy sand soil. *Environmental Science & Technology*, **2013**, 47, 12229-37	10.3	101
610	Actual evapotranspiration and precipitation measured by lysimeters: a comparison with eddy covariance and tipping bucket. *Hydrology and Earth System Sciences*, **2015**, 19, 2145-2161	5.5	99
609	Root Water Uptake: From Three-Dimensional Biophysical Processes to Macroscopic Modeling Approaches. *Vadose Zone Journal*, **2013**, 12, vzj2013.02.0042	2.7	99
608	Bacteria transport and deposition under unsaturated conditions: the role of the matrix grain size and the bacteria surface protein. *Journal of Contaminant Hydrology*, **2007**, 92, 255-73	3.9	99
607	Three-dimensional imaging of subsurface structural patterns using quantitative large-scale multiconfiguration electromagnetic induction data. *Water Resources Research*, **2014**, 50, 2732-2748	5.4	98
606	Spatio-temporal soil moisture patterns A meta-analysis using plot to catchment scale data. *Journal of Hydrology*, **2015**, 520, 326-341	6	98
605	Sensitivity of simulated soil heterotrophic respiration to temperature and moisture reduction functions. *Geoderma*, **2008**, 145, 17-27	6.7	97
604	On the Definition of the Natural Capital of Soils: A Framework for Description, Evaluation, and Monitoring. *Soil Science Society of America Journal*, **2009**, 73, 1904-1911	2.5	95
603	Site-specific 15N isotopic signatures of abiotically produced N2O. *Geochimica Et Cosmochimica Acta*, **2014**, 139, 72-82	5.5	87
602	An empirical vegetation correction for soil water content quantification using cosmic ray probes. *Water Resources Research*, **2015**, 51, 2030-2046	5.4	86
601	Sensor-to-Sensor Variability of the ECH2O EC-5, TE, and 5TE Sensors in Dielectric Liquids. *Vadose Zone Journal*, **2010**, 9, 181	2.7	86
600	Potential of electrical resistivity tomography to infer aquifer transport characteristics from tracer studies: A synthetic case study. *Water Resources Research*, **2005**, 41,	5.4	86
599	A meta-analysis of soil salinization effects on nitrogen pools, cycles and fluxes in coastal ecosystems. *Global Change Biology*, **2017**, 23, 1338-1352	11.4	85
598	Three-Dimensional Electrical Resistivity Tomography to Monitor Root Zone Water Dynamics. *Vadose Zone Journal*, **2011**, 10, 412-424	2.7	85
597	Transport of sulfadiazine in soil columns: experiments and modelling approaches. *Journal of Contaminant Hydrology*, **2007**, 89, 107-35	3.9	83
596	Functional Evaluation of Pedotransfer Functions for the Estimation of Soil Hydraulic Properties. *Soil Science Society of America Journal*, **1992**, 56, 1371-1378	2.5	83
595	Inverse modelling of in situ soil water dynamics: investigating the effect of different prior distributions of the soil hydraulic parameters. *Hydrology and Earth System Sciences*, **2011**, 15, 3043-3059	5.5	81

594	Bacteria Transport and Deposition under Unsaturated Flow Conditions: The Role of Water Content and Bacteria Surface Hydrophobicity. *Vadose Zone Journal*, **2008**, 7, 406-419	2.7	81
593	Spatial and temporal occurrence of preferential flow in a forested headwater catchment. *Journal of Hydrology*, **2016**, 534, 139-149	6	80
592	Hydraulic properties of a model dike from coupled Bayesian and multi-criteria hydrogeophysical inversion. *Journal of Hydrology*, **2010**, 380, 62-73	6	79
591	Induced Polarization of Unsaturated Sands Determined through Time Domain Measurements. *Vadose Zone Journal*, **2004**, 3, 1160-1168	2.7	79
590	Analysis of solute transport in a heterogeneous aquifer: the Krauthausen field experiment. *Journal of Contaminant Hydrology*, **2000**, 45, 329-358	3.9	79
589	Electromagnetic induction calibration using apparent electrical conductivity modelling based on electrical resistivity tomography. *Near Surface Geophysics*, **2010**, 8, 553-561	1.6	78
588	High-resolution imaging of a vineyard in south of France using ground-penetrating radar, electromagnetic induction and electrical resistivity tomography. *Journal of Applied Geophysics*, **2012**, 78, 113-122	1.7	77
587	Abiotic nitrous oxide production from hydroxylamine in soils and their dependence on soil properties. *Soil Biology and Biochemistry*, **2015**, 84, 107-115	7.5	76
586	Multivariate and multiscale data assimilation in terrestrial systems: a review. *Sensors*, **2012**, 12, 16291-3338	3.8	75
585	Quantitative conductivity and permittivity estimation using full-waveform inversion of on-ground GPR data. *Geophysics*, **2012**, 77, H79-H91	3.1	75
584	Calibration of a catchment scale cosmic-ray probe network: A comparison of three parameterization methods. *Journal of Hydrology*, **2014**, 516, 231-244	6	73
583	Soil moisture and soil properties estimation in the Community Land Model with synthetic brightness temperature observations. *Water Resources Research*, **2014**, 50, 6081-6105	5.4	73
582	CRootBox: a structural-functional modelling framework for root systems. *Annals of Botany*, **2018**, 121, 1033-1053	4.1	71
581	Imaging and characterization of solute transport during two tracer tests in a shallow aquifer using electrical resistivity tomography and multilevel groundwater samplers. *Water Resources Research*, **2010**, 46,	5.4	71
580	Three-dimensional geostatistical inversion of flowmeter and pumping test data. *Ground Water*, **2008**, 46, 193-201	2.4	71
579	Remote Estimation of the Hydraulic Properties of a Sand Using Full-Waveform Integrated Hydrogeophysical Inversion of Time-Lapse, Off-Ground GPR Data. *Vadose Zone Journal*, **2009**, 8, 743-754	2.7	70
578	Two-dimensional characterization of hydraulic heterogeneity by multiple pumping tests. *Water Resources Research*, **2007**, 43,	5.4	69
577	Monitoring and Modeling the Terrestrial System from Pores to Catchments: The Transregional Collaborative Research Center on Patterns in the Soil-Vegetation-Atmosphere System. *Bulletin of the American Meteorological Society*, **2015**, 96, 1765-1787	6.1	68

576	Geostatistical co-regionalization of soil hydraulic properties in a micro-scale catchment using terrain attributes. *Geoderma*, **2006**, 132, 206-221	6.7	68
575	Persistence of the fluoroquinolone antibiotic difloxacin in soil and lacking effects on nitrogen turnover. *Journal of Environmental Quality*, **2012**, 41, 1275-83	3.4	67
574	Dissipation and sequestration of the veterinary antibiotic sulfadiazine and its metabolites under field conditions. *Environmental Science & Technology*, **2011**, 45, 5216-22	10.3	66
573	Validation of Spaceborne and Modelled Surface Soil Moisture Products with Cosmic-Ray Neutron Probes. *Remote Sensing*, **2017**, 9, 103	5	65
572	A global data set of soil hydraulic properties and sub-grid variability of soil water retention and hydraulic conductivity curves. *Earth System Science Data*, **2017**, 9, 529-543	10.5	65
571	Monitoring water stable isotopic composition in soils using gas-permeable tubing and infrared laser absorption spectroscopy. *Water Resources Research*, **2013**, 49, 3747-3755	5.4	64
570	Quantitative Two-Layer Conductivity Inversion of Multi-Configuration Electromagnetic Induction Measurements. *Vadose Zone Journal*, **2011**, 10, 1319-1330	2.7	64
569	Changes in Soil Water Content Resulting from Ricinus Root Uptake Monitored by Magnetic Resonance Imaging. *Vadose Zone Journal*, **2008**, 7, 1010-1017	2.7	64
568	Closed loop GPR data inversion for soil hydraulic and electric property determination. *Geophysical Research Letters*, **2006**, 33,	4.9	64
567	Spatiotemporal relations between water budget components and soil water content in a forested tributary catchment. *Water Resources Research*, **2014**, 50, 4837-4857	5.4	63
566	Linking satellite derived LAI patterns with subsoil heterogeneity using large-scale ground-based electromagnetic induction measurements. *Geoderma*, **2015**, 241-242, 262-271	6.7	62
565	Determination of pore size distribution and hydraulic properties using nuclear magnetic resonance relaxometry: A comparative study of laboratory methods. *Water Resources Research*, **2010**, 46,	5.4	62
564	Estimating the unsaturated hydraulic conductivity from theoretical models using simple soil properties. *Geoderma*, **1995**, 65, 81-92	6.7	59
563	Emerging methods for noninvasive sensing of soil moisture dynamics from field to catchment scale: a review. *Wiley Interdisciplinary Reviews: Water*, **2015**, 2, 635-647	5.7	58
562	Fast evaluation of zero-offset Green's function for layered media with application to ground-penetrating radar. *Geophysical Research Letters*, **2007**, 34,	4.9	58
561	3-D characterization of high-permeability zones in a gravel aquifer using 2-D crosshole GPR full-waveform inversion and waveguide detection. *Geophysical Journal International*, **2013**, 195, 932-944	2.6	57
560	Correction of Temperature and Electrical Conductivity Effects on Dielectric Permittivity Measurements with ECH2O Sensors. *Vadose Zone Journal*, **2011**, 10, 582-593	2.7	57
559	EIT measurement system with high phase accuracy for the imaging of spectral induced polarization properties of soils and sediments. *Measurement Science and Technology*, **2008**, 19, 094010	2	57

558	Soil structure is an important omission in Earth System Models. *Nature Communications*, **2020**, 11, 522	17.4	57
557	Measurement depth effects on the apparent temperature sensitivity of soil respiration in field studies. *Biogeosciences*, **2008**, 5, 1175-1188	4.6	56
556	Assimilation of SMOS soil moisture and brightness temperature products into a land surface model. *Remote Sensing of Environment*, **2016**, 180, 292-304	13.2	55
555	Spatiotemporal analysis of soil moisture observations within a Tibetan mesoscale area and its implication to regional soil moisture measurements. *Journal of Hydrology*, **2013**, 482, 92-104	6	54
554	Multiyear heterotrophic soil respiration: Evaluation of a coupled CO2 transport and carbon turnover model. *Ecological Modelling*, **2008**, 214, 271-283	3	54
553	Development and analysis of the Soil Water Infiltration Global database. *Earth System Science Data*, **2018**, 10, 1237-1263	10.5	54
552	Transport and transformation of sulfadiazine in soil columns packed with a silty loam and a loamy sand. *Journal of Contaminant Hydrology*, **2009**, 103, 38-47	3.9	53
551	TERENO-SOILCan: a lysimeter-network in Germany observing soil processes and plant diversity influenced by climate change. *Environmental Earth Sciences*, **2016**, 75, 1	2.9	52
550	Catchment scale validation of SMOS and ASCAT soil moisture products using hydrological modeling and temporal stability analysis. *Journal of Hydrology*, **2014**, 519, 934-946	6	52
549	Effective Calibration of Low-Cost Soil Water Content Sensors. *Sensors*, **2017**, 17,	3.8	51
548	Long-term and high-frequency non-destructive monitoring of water stable isotope profiles in an evaporating soil column. *Hydrology and Earth System Sciences*, **2015**, 19, 4067-4080	5.5	51
547	Limited transport of functionalized multi-walled carbon nanotubes in two natural soils. *Environmental Pollution*, **2013**, 180, 152-8	9.3	50
546	Brightness Temperature and Soil Moisture Validation at Different Scales During the SMOS Validation Campaign in the Rur and Erft Catchments, Germany. *IEEE Transactions on Geoscience and Remote Sensing*, **2013**, 51, 1728-1743	8.1	50
545	Towards a network of observatories in terrestrial environmental research. *Advances in Geosciences* ,9, 109-114		50
544	Spectral induced polarization measurements on variably saturated sand-clay mixtures. *Near Surface Geophysics*, **2012**, 10, 479-489	1.6	49
543	Crosshole GPR full-waveform inversion of waveguides acting as preferential flow paths within aquifer systems. *Geophysics*, **2012**, 77, H57-H62	3.1	49
542	The TERENO-Rur Hydrological Observatory: A Multiscale Multi-Compartment Research Platform for the Advancement of Hydrological Science. *Vadose Zone Journal*, **2018**, 17, 180055	2.7	48
541	Speciation and distribution of P associated with Fe and Al oxides in aggregate-sized fraction of an arable soil. *Biogeosciences*, **2015**, 12, 6443-6452	4.6	47

540	Modeling local control effects on the temporal stability of soil water content. *Journal of Hydrology*, **2013**, 481, 106-118	6	47
539	Predicting subgrid variability of soil water content from basic soil information. *Geophysical Research Letters*, **2015**, 42, 789-796	4.9	46
538	Distribution of Phosphorus-Containing Fine Colloids and Nanoparticles in Stream Water of a Forest Catchment. *Vadose Zone Journal*, **2014**, 13, vzj2014.01.0005	2.7	46
537	Calibration of a Novel Low-Cost Soil Water Content Sensor Based on a Ring Oscillator. *Vadose Zone Journal*, **2013**, 12, vzj2012.0139	2.7	46
536	A STATISTICAL ANALYSIS OF SIX HYSTERESIS MODELS FOR THE MOISTURE RETENTION CHARACTERISTIC. *Soil Science*, **1994**, 157, 345-355	0.9	46
535	ON THE CHARACTERIZATION OF PROPERTIES OF AN UNRIPE MARINE CLAY SOIL. *Soil Science*, **1992** , 153, 471-481	0.9	46
534	Imaging and characterization of facies heterogeneity in an alluvial aquifer using GPR full-waveform inversion and cone penetration tests. *Journal of Hydrology*, **2015**, 524, 680-695	6	45
533	Atrazine soil core residue analysis from an agricultural field 21 years after its ban. *Journal of Environmental Quality*, **2014**, 43, 1450-9	3.4	45
532	Measuring soil surface water content in irrigated areas of southern Tunisia using full-waveform inversion of proximal GPR data. *Near Surface Geophysics*, **2008**, 6, 403-410	1.6	45
531	A terrestrial observatory approach to the integrated investigation of the effects of deforestation on water, energy, and matter fluxes. *Science China Earth Sciences*, **2015**, 58, 61-75	4.6	44
530	. *IEEE Transactions on Geoscience and Remote Sensing*, **2016**, 54, 3878-3889	8.1	44
529	Efficient random walk particle tracking algorithm for advective-dispersive transport in media with discontinuous dispersion coefficients and water contents. *Water Resources Research*, **2011**, 47,	5.4	44
528	Generalized random walk algorithm for the numerical modeling of complex diffusion processes. *Journal of Computational Physics*, **2003**, 186, 527-544	4.1	44
527	Improved Characterization of Fine-Texture Soils Using On-Ground GPR Full-Waveform Inversion. *IEEE Transactions on Geoscience and Remote Sensing*, **2014**, 52, 3947-3958	8.1	43
526	A Comparative Study of Multiple Approaches for Predicting the Soil-Water Retention Curve: Hyperspectral Information vs. Basic Soil Properties. *Soil Science Society of America Journal*, **2015**, 79, 1043-1058	2.5	43
525	Modelling the water balance of a mesoscale catchment basin using remotely sensed land cover data. *Journal of Hydrology*, **2008**, 353, 322-334	6	43
524	Estimation of Macrodispersion by Different Approximation Methods for Flow and Transport in Randomly Heterogeneous Media. *Transport in Porous Media*, **2001**, 43, 265-287	3.1	43
523	Spatio-temporal validation of long-term 3D hydrological simulations of a forested catchment using empirical orthogonal functions and wavelet coherence analysis. *Journal of Hydrology*, **2015**, 529, 1754-1767	6	42

522	Joint assimilation of piezometric heads and groundwater temperatures for improved modeling of river-aquifer interactions. *Water Resources Research*, **2014**, 50, 1665-1688	5.4	42
521	Estimation of Radiative Transfer Parameters from L-Band Passive Microwave Brightness Temperatures Using Advanced Data Assimilation. *Vadose Zone Journal*, **2013**, 12, vzj2012.0040	2.7	42
520	Comparison of Heterogeneous Transport Processes Observed with Electrical Resistivity Tomography in Two Soils. *Vadose Zone Journal*, **2010**, 9, 336-349	2.7	42
519	Particle size distribution models, their characteristics and fitting capability. *Journal of Hydrology*, **2015**, 529, 872-889	6	41
518	Transport and deposition of metabolically active and stationary phase Deinococcus radiodurans in unsaturated porous media. *Environmental Science & Technology*, **2007**, 41, 1265-71	10.3	41
517	Mapping Field-Scale Soil Moisture With L-Band Radiometer and Ground-Penetrating Radar Over Bare Soil. *IEEE Transactions on Geoscience and Remote Sensing*, **2011**, 49, 2863-2875	8.1	40
516	Patterns in Soil–Vegetation–Atmosphere Systems: Monitoring, Modeling, and Data Assimilation. *Vadose Zone Journal*, **2010**, 9, 821-827	2.7	40
515	Investigating Preferential Flow Processes in a Forest Soil Using Time Domain Reflectometry and Electrical Resistivity Tomography. *Vadose Zone Journal*, **2010**, 9, 350-361	2.7	40
514	TerrSysMP-PDAF (version 1.0): a modular high-performance data assimilation framework for an integrated land surface–subsurface model. *Geoscientific Model Development*, **2016**, 9, 1341-1360	6.3	40
513	Sorption-desorption behaviour of bentazone, boscalid and pyrimethanil in biochar and digestate based soil mixtures for biopurification systems. *Science of the Total Environment*, **2016**, 559, 63-73	10.2	40
512	Soil moisture retrieval from airborne L-band passive microwave using high resolution multispectral data. *ISPRS Journal of Photogrammetry and Remote Sensing*, **2014**, 91, 59-71	11.8	39
511	In Situ Visualization and Quantification of Three-Dimensional Root System Architecture and Growth Using X-Ray Computed Tomography. *Vadose Zone Journal*, **2014**, 13, vzj2014.03.0024	2.7	39
510	Coupled hydrogeophysical parameter estimation using a sequential Bayesian approach. *Hydrology and Earth System Sciences*, **2010**, 14, 545-556	5.5	39
509	Kirkham's Legacy and Contemporary Challenges in Soil Physics Research. *Soil Science Society of America Journal*, **2011**, 75, 1589-1601	2.5	39
508	Renormalization group analysis of macrodispersion in a directed random flow. *Water Resources Research*, **1997**, 33, 2287-2299	5.4	39
507	Phosphorus Containing Water Dispersible Nanoparticles in Arable Soil. *Journal of Environmental Quality*, **2015**, 44, 1772-81	3.4	38
506	Characterization of unsaturated porous media by high-field and low-field NMR relaxometry. *Water Resources Research*, **2009**, 45,	5.4	38
505	Implementation of a Microscopic Soil–Root Hydraulic Conductivity Drop Function in a Three-Dimensional Soil–Root Architecture Water Transfer Model. *Vadose Zone Journal*, **2009**, 8, 783-792	2.7	38

504	A Set of Analytical Benchmarks to Test Numerical Models of Flow and Transport in Soils. *Vadose Zone Journal*, **2005**, 4, 206-221	2.7	38
503	Analysis of steady state chloride transport through two heterogeneous field soils. *Water Resources Research*, **1998**, 34, 2539-2550	5.4	38
502	Phosphorus Binding to Nanoparticles and Colloids in Forest Stream Waters. *Vadose Zone Journal*, **2017**, 16, vzj2016.07.0064	2.7	37
501	A highly sensitive method for the determination of hydroxylamine in soils. *Geoderma*, **2014**, 232-234, 117-122	6.7	37
500	Characterization of Crop Canopies and Water Stress Related Phenomena using Microwave Remote Sensing Methods: A Review. *Vadose Zone Journal*, **2012**, 11, vzj2011.0138ra	2.7	37
499	Effect of Local Soil Hydraulic Conductivity Drop Using a Three-Dimensional Root Water Uptake Model. *Vadose Zone Journal*, **2008**, 7, 1089-1098	2.7	37
498	Transport of Manure-Based Applied Sulfadiazine and Its Main Transformation Products in Soil Columns. *Vadose Zone Journal*, **2009**, 8, 677-689	2.7	37
497	Noninvasive 3-D Transport Characterization in a Sandy Soil Using ERT: 1. Investigating the Validity of ERT-derived Transport Parameters. *Vadose Zone Journal*, **2009**, 8, 711-722	2.7	37
496	Soil Water Extraction with a Suction Cup: Results of Numerical Simulations. *Vadose Zone Journal*, **2005**, 4, 899-907	2.7	37
495	Simulating water and nitrogen behaviour in soils cropped with winter wheat. *Fertilizer Research*, **1991**, 27, 233-243		37
494	Dissipation of bentazone, pyrimethanil and boscalid in biochar and digestate based soil mixtures for biopurification systems. *Science of the Total Environment*, **2016**, 544, 192-202	10.2	37
493	Infiltration from the Pedon to Global Grid Scales: An Overview and Outlook for Land Surface Modeling. *Vadose Zone Journal*, **2019**, 18, 1-53	2.7	36
492	Seasonal soil moisture patterns: Controlling transit time distributions in a forested headwater catchment. *Water Resources Research*, **2014**, 50, 5270-5289	5.4	36
491	Effect of soil hydraulic properties on the relationship between the spatial mean and variability of soil moisture. *Journal of Hydrology*, **2014**, 516, 154-160	6	36
490	Bayesian model averaging using particle filtering and Gaussian mixture modeling: Theory, concepts, and simulation experiments. *Water Resources Research*, **2012**, 48,	5.4	36
489	Coupled hydrogeophysical inversion of time-lapse surface GPR data to estimate hydraulic properties of a layered subsurface. *Water Resources Research*, **2013**, 49, 8480-8494	5.4	36
488	Transformation and sorption of the veterinary antibiotic sulfadiazine in two soils: a short-term batch study. *Environmental Science & Technology*, **2010**, 44, 4651-7	10.3	36
487	Accuracy of Bulk Electrical Conductivity Measurements with Time Domain Reflectometry. *Vadose Zone Journal*, **2008**, 7, 426-433	2.7	36

486	A Set of Analytical Benchmarks to Test Numerical Models of Flow and Transport in Soils. *Vadose Zone Journal*, **2005**, 4, 206	2.7	36
485	How to Control the Lysimeter Bottom Boundary to Investigate the Effect of Climate Change on Soil Processes?. *Vadose Zone Journal*, **2016**, 15, vzj2015.08.0113	2.7	36
484	Large-scale soil mapping using multi-configuration EMI and supervised image classification. *Geoderma*, **2019**, 335, 133-148	6.7	35
483	Distributed modelling of mean annual soil erosion and sediment delivery rates to surface waters. *Catena*, **2013**, 102, 13-20	5.8	35
482	Characterization of tillage effects on the spatial variation of soil properties using ground-penetrating radar and electromagnetic induction. *Geoderma*, **2013**, 207-208, 310-322	6.7	35
481	Inverse determination of heterotrophic soil respiration response to temperature and water content under field conditions. *Biogeochemistry*, **2012**, 108, 119-134	3.8	34
480	Joint Measurement Setup for Determining Spectral Induced Polarization and Soil Hydraulic Properties. *Vadose Zone Journal*, **2011**, 10, 716-726	2.7	34
479	Tracer sampling frequency influences estimates of young water fraction and streamwater transit time distribution. *Journal of Hydrology*, **2016**, 541, 952-964	6	34
478	Integrating hydrological modelling, data assimilation and cloud computing for real-time management of water resources. *Environmental Modelling and Software*, **2017**, 93, 418-435	5.2	33
477	Roles of cation valance and exchange on the retention and colloid-facilitated transport of functionalized multi-walled carbon nanotubes in a natural soil. *Water Research*, **2017**, 109, 358-366	12.5	33
476	Elemental Composition of Natural Nanoparticles and Fine Colloids in European Forest Stream Waters and Their Role as Phosphorus Carriers. *Global Biogeochemical Cycles*, **2017**, 31, 1592-1607	5.9	33
475	Do Goethite Surfaces Really Control the Transport and Retention of Multi-Walled Carbon Nanotubes in Chemically Heterogeneous Porous Media?. *Environmental Science & Technology*, **2016**, 50, 12713-12721	10.3	33
474	A New Soil Moisture Downscaling Approach for SMAP, SMOS, and ASCAT by Predicting Sub-Grid Variability. *Remote Sensing*, **2018**, 10, 427	5	33
473	Cosmic Ray Neutron Sensing for Simultaneous Soil Water Content and Biomass Quantification in Drought Conditions. *Water Resources Research*, **2018**, 54, 7383-7402	5.4	33
472	Detection of spatially limited high-porosity layers using crosshole GPR signal analysis and full-waveform inversion. *Water Resources Research*, **2014**, 50, 6966-6985	5.4	33
471	Simple pedotransfer functions to initialize reactive carbon pools of the RothC model. *European Journal of Soil Science*, **2013**, 64, 567-575	3.4	33
470	Estimating random errors of eddy covariance data: An extended two-tower approach. *Agricultural and Forest Meteorology*, **2013**, 171-172, 203-219	5.8	33
469	Uncertainty analysis of eddy covariance CO₂ flux measurements for different EC tower distances using an extended two-tower approach. *Biogeosciences*, **2015**, 12, 1205-1221	4.6	33

468	Uniqueness and stability analysis of hydrogeophysical inversion for time-lapse ground-penetrating radar estimates of shallow soil hydraulic properties. *Water Resources Research*, **2008**, 44,	5.4	33
467	An experimental and numerical study on flow and transport in a field soil using zero-tension lysimeters and suction plates. *European Journal of Soil Science*, **2007**, 58, 632-645	3.4	33
466	Field study on colloid transport using fluorescent microspheres. *European Journal of Soil Science*, **2007**, 59, 82-93	3.4	33
465	Inverse Estimation of Soil Hydraulic and Transport Parameters of Layered Soils from Water Stable Isotope and Lysimeter Data. *Vadose Zone Journal*, **2018**, 17, 170168	2.7	33
464	Towards Retrieving Soil Hydraulic Properties by Hyperspectral Remote Sensing. *Vadose Zone Journal*, **2015**, 14, vzj2014.07.0080	2.7	32
463	In Situ Root System Architecture Extraction from Magnetic Resonance Imaging for Water Uptake Modeling. *Vadose Zone Journal*, **2013**, 12, vzj2012.0019	2.7	32
462	Estimation of Soil Hydraulic Parameters in the Field by Integrated Hydrogeophysical Inversion of Time-Lapse Ground-Penetrating Radar Data. *Vadose Zone Journal*, **2012**, 11, vzj2011.0177	2.7	32
461	Spatial horizontal correlation characteristics in the land data assimilation of soil moisture. *Hydrology and Earth System Sciences*, **2012**, 16, 1349-1363	5.5	32
460	Identifying a rainfall event threshold triggering herbicide leaching by preferential flow. *Water Resources Research*, **2010**, 46,	5.4	32
459	Stochastic Continuum Transport Equations for Field-Scale Solute Transport: Overview of Theoretical and Experimental Results. *Vadose Zone Journal*, **2006**, 5, 184-203	2.7	32
458	Role of rain intensity and soil colloids in the retention of surfactant-stabilized silver nanoparticles in soil. *Environmental Pollution*, **2018**, 238, 1027-1034	9.3	31
457	Improvements in crosshole GPR full-waveform inversion and application on data measured at the Boise Hydrogeophysics Research Site. *Journal of Applied Geophysics*, **2013**, 99, 114-124	1.7	31
456	Estimation and Validation of RapidEye-Based Time-Series of Leaf Area Index for Winter Wheat in the Rur Catchment (Germany). *Remote Sensing*, **2015**, 7, 2808-2831	5	31
455	Estimating Soil Hydraulic Properties from Infrared Measurements of Soil Surface Temperatures and TDR Data. *Vadose Zone Journal*, **2010**, 9, 910-924	2.7	31
454	Growth-inhibitory effects of sulfonamides at different pH: dissimilar susceptibility patterns of a soil bacterium and a test bacterium used for antibiotic assays. *Chemosphere*, **2008**, 72, 836-43	8.4	31
453	Analyses of locally measured bromide breakthrough curves from a natural gradient tracer experiment at Krauthausen. *Journal of Contaminant Hydrology*, **2001**, 48, 23-43	3.9	31
452	Parameterization of Root Water Uptake Models Considering Dynamic Root Distributions and Water Uptake Compensation. *Vadose Zone Journal*, **2018**, 17, 160125	2.7	31
451	Determining dew and hoar frost formation for a low mountain range and alpine grassland site by weighable lysimeter. *Journal of Hydrology*, **2018**, 563, 372-381	6	31

450	Mapping peat layer properties with multi-coil offset electromagnetic induction and laser scanning elevation data. *Geoderma*, **2016**, 261, 178-189	6.7	30
449	Estimation of Hydraulic Properties of a Sandy Soil Using Ground-Based Active and Passive Microwave Remote Sensing. *IEEE Transactions on Geoscience and Remote Sensing*, **2015**, 53, 3095-3109	8.1	30
448	State and parameter estimation of two land surface models using the ensemble Kalman filter and the particle filter. *Hydrology and Earth System Sciences*, **2017**, 21, 4927-4958	5.5	30
447	Modelling the impact of heterogeneous rootzone water distribution on the regulation of transpiration by hormone transport and/or hydraulic pressures. *Plant and Soil*, **2014**, 384, 93-112	4.2	30
446	Temporal stability of soil water content as affected by climate and soil hydraulic properties: a simulation study. *Hydrological Processes*, **2014**, 28, 1899-1915	3.3	30
445	Joint Assimilation of Surface Temperature and L-Band Microwave Brightness Temperature in Land Data Assimilation. *Vadose Zone Journal*, **2013**, 12, vzj2012.0072	2.7	30
444	Properties of precipitation-induced multilayer surface waveguides derived from inversion of dispersive TE and TM GPR data. *Geophysics*, **2010**, 75, WA263-WA273	3.1	30
443	Characterization of subsoil heterogeneity, estimation of grain size distribution and hydraulic conductivity at the Krauthausen test site using Cone Penetration Test. *Journal of Contaminant Hydrology*, **2008**, 95, 57-75	3.9	30
442	Characterization of Field Tracer Transport Using High-Resolution Images. *Vadose Zone Journal*, **2005**, 4, 101	2.7	30
441	Spatial variability of atrazine sorption parameters and other soil properties in a podzoluvisol. *Journal of Contaminant Hydrology*, **1999**, 36, 31-52	3.9	30
440	Construction of Minirhizotron Facilities for Investigating Root Zone Processes. *Vadose Zone Journal* , **2016**, 15, vzj2016.05.0043	2.7	30
439	Changes in measured spatiotemporal patterns of hydrological response after partial deforestation in a headwater catchment. *Journal of Hydrology*, **2016**, 542, 648-661	6	30
438	Microbial respiration of biochar- and digestate-based mixtures. *Biology and Fertility of Soils*, **2016**, 52, 151-164	6.1	29
437	Root growth, water uptake, and sap flow of winter wheat in response to different soil water conditions. *Hydrology and Earth System Sciences*, **2018**, 22, 2449-2470	5.5	29
436	Colloidal properties and potential release of water-dispersible colloids in an agricultural soil depth profile. *Geoderma*, **2013**, 193-194, 94-101	6.7	29
435	The influence of riverbed heterogeneity patterns on river-aquifer exchange fluxes under different connection regimes. *Journal of Hydrology*, **2017**, 554, 383-396	6	29
434	Effects of inorganic and organic anions on the stability of illite and quartz soil colloids in Na-, Ca- and mixed Na□Ca systems. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2012**, 415, 134-141	5.1	29
433	Simultaneous estimation of model state variables and observation and forecast biases using a two-stage hybrid Kalman filter. *Hydrology and Earth System Sciences*, **2013**, 17, 3499-3521	5.5	29

432	Dispersion inversion of electromagnetic pulse propagation within freezing and thawing soil waveguides. *Geophysical Research Letters*, **2009**, 36,	4.9	29
431	Degradation and humification of maize straw in soil microcosms inoculated with simple and complex microbial communities. *European Journal of Soil Science*, **2007**, 58, 141-151	3.4	29
430	Asymptotic analysis of nonlinear equilibrium solute transport in porous media. *Water Resources Research*, **1996**, 32, 3093-3098	5.4	29
429	On the role of patterns in understanding the functioning of soil-vegetation-atmosphere systems. *Journal of Hydrology*, **2016**, 542, 63-86	6	29
428	Effects of Soil Hydraulic Properties on the Spatial Variability of Soil Water Content: Evidence from Sensor Network Data and Inverse Modeling. *Vadose Zone Journal*, **2014**, 13, vzj2014.07.0099	2.7	28
427	Identification of time-variant river bed properties with the ensemble Kalman filter. *Water Resources Research*, **2012**, 48,	5.4	28
426	Information content of incubation experiments for inverse estimation of pools in the Rothamsted carbon model: a Bayesian perspective. *Biogeosciences*, **2010**, 7, 763-776	4.6	28
425	Long-term sorption and desorption of sulfadiazine in soil: experiments and modeling. *Journal of Environmental Quality*, **2010**, 39, 654-66	3.4	28
424	Rock Fragments Control Size and Saturation of Organic Carbon Pools in Agricultural Topsoil. *Soil Science Society of America Journal*, **2011**, 75, 1898-1907	2.5	28
423	Noninvasive 3-D Transport Characterization in a Sandy Soil Using ERT: 2. Transport Process Inference. *Vadose Zone Journal*, **2009**, 8, 723-734	2.7	28
422	Sorption study of 2,4-dichlorophenol on organoclays constructed for soil bioremediation. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2005**, 265, 81-87	5.1	28
421	High resolution aquifer characterization using crosshole GPR full-waveform tomography: Comparison with direct-push and tracer test data. *Water Resources Research*, **2017**, 53, 49-72	5.4	27
420	Joint full-waveform analysis of off-ground zero-offset ground penetrating radar and electromagnetic induction synthetic data for estimating soil electrical properties. *Geophysical Journal International*, **2010**, 182, 1267-1278	2.6	27
419	PARSWMS: A Parallelized Model for Simulating Three-Dimensional Water Flow and Solute Transport in Variably Saturated Soils. *Vadose Zone Journal*, **2007**, 6, 255-259	2.7	27
418	N2O and NOx emissions by reactions of nitrite with soil organic matter of a Norway spruce forest. *Biogeochemistry*, **2017**, 132, 325-342	3.8	26
417	Value of sun-induced chlorophyll fluorescence for quantifying hydrological states and fluxes: Current status and challenges. *Agricultural and Forest Meteorology*, **2020**, 291, 108088	5.8	26
416	On the spatial variation of soil rhizospheric and heterotrophic respiration in a winter wheat stand. *Agricultural and Forest Meteorology*, **2014**, 195-196, 24-31	5.8	26
415	Optimization of a Radiative Transfer Forward Operator for Simulating SMOS Brightness Temperatures over the Upper Mississippi Basin. *Journal of Hydrometeorology*, **2015**, 16, 1109-1134	3.7	26

414	Accounting for soil surface roughness in the inversion of ultrawideband off-ground GPR signal for soil moisture retrieval. *Geophysics*, **2012**, 77, H1-H7	3.1	26
413	A geostatistical approach to the field-scale pattern of heterotrophic soil CO2 emission using covariates. *Biogeochemistry*, **2012**, 111, 377-392	3.8	26
412	Optimization of acquisition setup for cross-hole: GPR full-waveform inversion using checkerboard analysis. *Near Surface Geophysics*, **2013**, 11, 197-209	1.6	26
411	Do lab-derived distribution coefficient values of pesticides match distribution coefficient values determined from column and field-scale experiments? A critical analysis of relevant literature. *Journal of Environmental Quality*, **2011**, 40, 879-98	3.4	26
410	A Generalized Frequency Domain Reflectometry Modeling Technique for Soil Electrical Properties Determination. *Vadose Zone Journal*, **2010**, 9, 1063-1072	2.7	26
409	Multispectral remotely sensed data in modelling the annual variability of nitrate concentrations in the leachate. *Environmental Modelling and Software*, **2008**, 23, 1070-1081	5.2	26
408	Intercomparison of Flow and Transport Models Applied to Vertical Drainage in Cropped Lysimeters. *Vadose Zone Journal*, **2005**, 4, 354-359	2.7	26
407	On the physical meaning of retardation factor and velocity of a nonlinearly sorbing solute. *Journal of Hydrology*, **2005**, 302, 127-136	6	26
406	Towards an unbiased filter routine to determine precipitation and evapotranspiration from high precision lysimeter measurements. *Journal of Hydrology*, **2017**, 549, 731-740	6	25
405	A new model for root growth in soil with macropores. *Plant and Soil*, **2017**, 415, 99-116	4.2	25
404	Understanding Soil and Plant Interaction by Combining Ground-Based Quantitative Electromagnetic Induction and Airborne Hyperspectral Data. *Geophysical Research Letters*, **2018**, 45, 7571-7579	4.9	25
403	Intercomparison of Methods for the Simultaneous Estimation of Zero-Plane Displacement and Aerodynamic Roughness Length from Single-Level Eddy-Covariance Data. *Boundary-Layer Meteorology*, **2014**, 151, 373-387	3.4	25
402	Model Based Assessment of Nitrate Pollution of Water Resources on a Federal State Level for the Dimensioning of Agro-environmental Reduction Strategies. *Water Resources Management*, **2013**, 27, 885-909	3.7	25
401	Interception effects on stable isotope driven streamwater transit time estimates. *Geophysical Research Letters*, **2015**, 42, 5299-5308	4.9	25
400	Spatio-temporal variability of global soil moisture products. *Journal of Hydrology*, **2015**, 522, 187-202	6	25
399	Moisture profiles of the upper soil layer during evaporation monitored by NMR. *Water Resources Research*, **2014**, 50, 5184-5195	5.4	25
398	Analysis of Horn Antenna Transfer Functions and Phase-Center Position for Modeling Off-Ground GPR. *IEEE Transactions on Geoscience and Remote Sensing*, **2011**, 49, 1649-1662	8.1	25
397	Co-transport of chlordecone and sulfadiazine in the presence of functionalized multi-walled carbon nanotubes in soils. *Environmental Pollution*, **2017**, 221, 470-479	9.3	24

396	Fate of the antibiotic sulfadiazine in natural soils: Experimental and numerical investigations. *Journal of Contaminant Hydrology*, **2015**, 177-178, 30-42	3.9	24
395	Colloid-bound and dissolved phosphorus species in topsoil water extracts along a grassland transect from Cambisol to Stagnosol. *Biogeosciences*, **2017**, 14, 1153-1164	4.6	24
394	Linking transpiration reduction to rhizosphere salinity using a 3D coupled soil-plant model. *Plant and Soil*, **2014**, 377, 277-293	4.2	24
393	Characterisation of river–aquifer exchange fluxes: The role of spatial patterns of riverbed hydraulic conductivities. *Journal of Hydrology*, **2015**, 531, 111-123	6	24
392	Numerical investigations on ergodicity of solute transport in heterogeneous aquifers. *Water Resources Research*, **2006**, 42,	5.4	24
391	Organoclays for soil remediation: Adsorption of 2,4-dichlorophenol on organoclay/aquifer material mixtures studied under static and flow conditions. *Applied Clay Science*, **2006**, 32, 179-189	5.2	24
390	Three-dimensional imaging of pore water diffusion and motion in porous media by nuclear magnetic resonance imaging. *Journal of Hydrology*, **2002**, 267, 244-257	6	24
389	EVALUATION OF THE MULTISTEP OUTFLOW METHOD FOR THE DETERMINATION OF UNSATURATED HYDRAULIC PROPERTIES OF SOILS. *Soil Science*, **1997**, 162, 618-631	0.9	24
388	Potential of catchment-wide soil water content prediction using electromagnetic induction in a forest ecosystem. *Environmental Earth Sciences*, **2017**, 76, 1	2.9	23
387	Modeling the Impact of Biopores on Root Growth and Root Water Uptake. *Vadose Zone Journal*, **2019**, 18, 1-20	2.7	23
386	Determination of spatially differentiated water balance components including groundwater recharge on the Federal State level – A case study using the mGROWA model in North Rhine-Westphalia (Germany). *Journal of Hydrology: Regional Studies*, **2015**, 4, 294-312	3.6	23
385	Effect of Root Water and Solute Uptake on Apparent Soil Dispersivity: A Simulation Study. *Vadose Zone Journal*, **2012**, 11, vzj2012.0009	2.7	23
384	Is high-resolution inverse characterization of heterogeneous river bed hydraulic conductivities needed and possible?. *Hydrology and Earth System Sciences*, **2013**, 17, 3795-3813	5.5	23
383	Quantifying field-scale surface soil water content from proximal GPR signal inversion in the time domain. *Near Surface Geophysics*, **2010**, 8, 483-491	1.6	23
382	Coupled Hydrogeophysical Inversion of Streaming Potential Signals for Unsaturated Soil Hydraulic Properties. *Vadose Zone Journal*, **2012**, 11, vzj2011.0115	2.7	23
381	Pesticide volatilization from soil: lysimeter measurements versus predictions of European registration models. *Journal of Environmental Quality*, **2003**, 32, 1183-93	3.4	23
380	Continuum multiscale model of root water and nutrient uptake from soil with explicit consideration of the 3D root architecture and the rhizosphere gradients. *Plant and Soil*, **2019**, 439, 273-292	4.2	23
379	Steering operational synergies in terrestrial observation networks: opportunity for advancing Earth system dynamics modelling. *Earth System Dynamics*, **2018**, 9, 593-609	4.8	23

378	Review of crosshole ground-penetrating radar full-waveform inversion of experimental data: Recent developments, challenges, and pitfalls. *Geophysics*, **2019**, 84, H13-H28	3.1	22
377	Evaluation of a cosmic-ray neutron sensor network for improved land surface model prediction. *Hydrology and Earth System Sciences*, **2017**, 21, 2509-2530	5.5	22
376	The impact of sieving on heterotrophic respiration response to water content in loamy and sandy topsoils. *Geoderma*, **2016**, 272, 73-82	6.7	22
375	TEODOOR: a distributed geodata infrastructure for terrestrial observation data. *Environmental Earth Sciences*, **2013**, 69, 507-521	2.9	22
374	Unraveling the hydrodynamics of split root water uptake experiments using CT scanned root architectures and three dimensional flow simulations. *Frontiers in Plant Science*, **2015**, 6, 370	6.2	22
373	Correction of systematic model forcing bias of CLM using assimilation of cosmic-ray Neutrons and land surface temperature: a study in the Heihe Catchment, China. *Hydrology and Earth System Sciences*, **2015**, 19, 615-629	5.5	22
372	Sorption of a branched nonylphenol and perfluorooctanoic acid on Yangtze River sediments and their model components. *Journal of Environmental Monitoring*, **2012**, 14, 2653-8		22
371	Validation of the pesticide leaching model PELMO using lysimeter studies performed for registration. *Chemosphere*, **1997**, 35, 2563-2587	8.4	22
370	Temperature response of wheat decomposition is more complex than the common approaches of most multi-pool models. *Soil Biology and Biochemistry*, **2008**, 40, 2780-2786	7.5	22
369	Imaging Brilliant Blue Stained Soil by Means of Electrical Resistivity Tomography. *Vadose Zone Journal*, **2009**, 8, 963-975	2.7	22
368	Estimation of local scale dispersion from local breakthrough curves during a tracer test in a heterogeneous aquifer: the Lagrangian approach. *Journal of Contaminant Hydrology*, **2002**, 54, 141-71	3.9	22
367	A framework for modelling soil structure dynamics induced by biological activity. *Global Change Biology*, **2020**, 26, 5382-5403	11.4	22
366	Estimation of Community Land Model parameters for an improved assessment of net carbon fluxes at European sites. *Journal of Geophysical Research G: Biogeosciences*, **2017**, 122, 661-689	3.7	21
365	A New Method for In Situ Measurements of Oxygen Isotopologues of Soil Water and Carbon Dioxide with High Time Resolution. *Vadose Zone Journal*, **2015**, 14, vzj2014.11.0169	2.7	21
364	Coupled hydrogeophysical inversion of electrical resistances and inflow measurements for topsoil hydraulic properties under constant head infiltration. *Near Surface Geophysics*, **2012**, 10, 413-426	1.6	21
363	Simulation of water and solute transport in field soils with the LEACHP model. *Agricultural Water Management*, **2000**, 44, 225-245	5.9	21
362	Quantification and Prediction of Nighttime Evapotranspiration for Two Distinct Grassland Ecosystems. *Water Resources Research*, **2019**, 55, 2961-2975	5.4	20
361	A novel isolated Terrabacter-like bacterium can mineralize 2-aminopyrimidine, the principal metabolite of microbial sulfadiazine degradation. *Biodegradation*, **2015**, 26, 139-50	4.1	20

360	Soil moisture prediction of bare soil profiles using diffuse spectral reflectance information and vadose zone flow modeling. *Remote Sensing of Environment*, **2016**, 187, 218-229	13.2	20
359	First real-time isotopic characterisation of N2O from chemodenitrification. *Geochimica Et Cosmochimica Acta*, **2019**, 267, 17-32	5.5	20
358	Surface-associated metal catalyst enhances the sorption of perfluorooctanoic acid to multi-walled carbon nanotubes. *Journal of Colloid and Interface Science*, **2012**, 377, 342-6	9.3	20
357	Soil Hydraulic Parameters and Surface Soil Moisture of a Tilled Bare Soil Plot Inversely Derived from L-Band Brightness Temperatures. *Vadose Zone Journal*, **2014**, 13, vzj2013.04.0075	2.7	20
356	Near-surface solute redistribution during evaporation. *Geophysical Research Letters*, **2011**, 38, n/a-n/a	4.9	20
355	Effect of organic carbon and mineral surface on the pyrene sorption and distribution in Yangtze River sediments. *Chemosphere*, **2010**, 80, 1321-7	8.4	20
354	The influence of maize residues on the mobility and binding of benazolin: investigating physically extracted soil fractions. *Environmental Pollution*, **2007**, 147, 4-13	9.3	20
353	Miscible Displacement, Sorption and Desorption of Atrazine in a Brazilian Oxisol. *Vadose Zone Journal*, **2003**, 2, 728-738	2.7	20
352	Evaluation of pesticide dynamics of the WAVE-model. *Agricultural Water Management*, **2000**, 44, 371-388	5.9	20
351	Monitoring Hydrological Processes for Land and Water Resources Management in a Mediterranean Ecosystem: The Alento River Catchment Observatory. *Vadose Zone Journal*, **2018**, 17, 180042	2.7	20
350	Effect of metal oxide on surface area and pore size of water-dispersible colloids from three German silt loam topsoils. *Geoderma*, **2014**, 235-236, 260-270	6.7	19
349	Measurement and Simulation of Topographic Effects on Passive Microwave Remote Sensing Over Mountain Areas: A Case Study From the Tibetan Plateau. *IEEE Transactions on Geoscience and Remote Sensing*, **2014**, 52, 1489-1501	8.1	19
348	Spatio-temporal drivers of soil and ecosystem carbon fluxes at field scale in an upland grassland in Germany. *Agriculture, Ecosystems and Environment*, **2015**, 211, 84-93	5.7	19
347	Electromagnetic induction antenna modelling using a linear system of complex antenna transfer functions. *Near Surface Geophysics*, **2012**, 10, 237-247	1.6	19
346	Characterization of bimodal facies distributions using effective anisotropic complex resistivity: A 2D numerical study based on Cole-Cole models. *Geophysics*, **2009**, 74, A19-A22	3.1	19
345	Parameterizing a Dynamic Architectural Model of the Root System of Spring Barley from Minirhizotron Data. *Vadose Zone Journal*, **2012**, 11, vzj2011.0179	2.7	19
344	Boundedness of Turbulent Temperature Probability Distributions, and their Relation to the Vertical Profile in the Convective Boundary Layer. *Boundary-Layer Meteorology*, **2010**, 134, 459-486	3.4	19
343	Binding of 13C-labelled 2-aminobenzothiazoles to humic acid as derived from 13C NMR spectroscopy. *Organic Geochemistry*, **1998**, 29, 1829-1835	3.1	19

342	A numerical approach for determination of sources in transport equations. *Computers and Mathematics With Applications*, **1996**, 32, 31-42	2.7	19
341	Simulating Flood-Induced Riverbed Transience Using Unmanned Aerial Vehicles, Physically Based Hydrological Modeling, and the Ensemble Kalman Filter. *Water Resources Research*, **2018**, 54, 9342-9363	5.4	19
340	Evaluation of a novel correction procedure to remove electrode impedance effects from broadband SIP measurements. *Journal of Applied Geophysics*, **2016**, 135, 466-473	1.7	18
339	Analyzing spatiotemporal variability of heterotrophic soil respiration at the field scale using orthogonal functions. *Geoderma*, **2012**, 181-182, 91-101	6.7	18
338	Within-Field Variability of Bare Soil Evaporation Derived from Eddy Covariance Measurements. *Vadose Zone Journal*, **2010**, 9, 943-954	2.7	18
337	Re-evaluation of the conformational structure of sulfadiazine species using NMR and ab initio DFT studies and its implication on sorption and degradation. *Chemosphere*, **2008**, 72, 1448-1454	8.4	18
336	Prediction of velocity statistics in three-dimensional multi-Gaussian hydraulic conductivity fields. *Water Resources Research*, **2006**, 42,	5.4	18
335	Altered energy partitioning across terrestrial ecosystems in the European drought year 2018. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2020**, 375, 20190524	5.8	18
334	Passive L-Band Microwave Remote Sensing of Organic Soil Surface Layers: A Tower-Based Experiment. *Remote Sensing*, **2018**, 10, 304	5	18
333	Simulation of future groundwater recharge using a climate model ensemble and SAR-image based soil parameter distributions - A case study in an intensively-used Mediterranean catchment. *Science of the Total Environment*, **2016**, 543, 889-905	10.2	17
332	On the Information Content of Cosmic-Ray Neutron Data in the Inverse Estimation of Soil Hydraulic Properties. *Vadose Zone Journal*, **2019**, 18, 1-24	2.7	17
331	Error Estimation for Soil Moisture Measurements With Cosmic Ray Neutron Sensing and Implications for Rover Surveys. *Frontiers in Water*, **2020**, 2,	2.6	17
330	Scale dependent parameterization of soil hydraulic conductivity in 3D simulation of hydrological processes in a forested headwater catchment. *Journal of Hydrology*, **2016**, 536, 365-375	6	17
329	Effect of structural composition of humic acids on the sorption of a branched nonylphenol isomer. *Chemosphere*, **2011**, 84, 409-14	8.4	17
328	Imaging water fluxes in porous media by magnetic resonance imaging using D(2)O as a tracer. *Magnetic Resonance Imaging*, **2009**, 27, 285-92	3.3	17
327	Solute transport analysis of bromide, uranin and LiCl using breakthrough curves from aquifer sediment. *Journal of Contaminant Hydrology*, **1999**, 39, 7-34	3.9	17
326	Relation of SIP Relaxation Time of Sands to Salinity, Grain Size and Hydraulic Conductivity **2005**,		17
325	In-situ monitoring of soil water isotopic composition for partitioning of evapotranspiration during one growing season of sugar beet (Beta vulgaris). *Agricultural and Forest Meteorology*, **2019**, 266-267, 53-64	5.8	17

324	Interactive effects of MnO, organic matter and pH on abiotic formation of NO from hydroxylamine in artificial soil mixtures. *Scientific Reports*, **2017**, 7, 39590	4.9	16
323	CO2 fluxes before and after partial deforestation of a Central European spruce forest. *Agricultural and Forest Meteorology*, **2019**, 274, 61-74	5.8	16
322	Incorporating a root water uptake model based on the hydraulic architecture approach in terrestrial systems simulations. *Agricultural and Forest Meteorology*, **2019**, 269-270, 28-45	5.8	16
321	Measuring root system traits of wheat in 2D images to parameterize 3D root architecture models. *Plant and Soil*, **2018**, 425, 457-477	4.2	16
320	Isotopic composition of plant water sources. *Nature*, **2016**, 536, E1-3	50.4	16
319	Dynamics of transformation of the veterinary antibiotic sulfadiazine in two soils. *Chemosphere*, **2014**, 95, 470-7	8.4	16
318	Multi-site calibration and validation of a net ecosystem carbon exchange model for croplands. *Ecological Modelling*, **2017**, 363, 137-156	3	16
317	Effects of Near Surface Soil Moisture Profiles During Evaporation on Far-Field Ground-Penetrating Radar Data: A Numerical Study. *Vadose Zone Journal*, **2013**, 12, vzj2012.0138	2.7	16
316	Integrated analysis of waveguide dispersed GPR pulses using deterministic and Bayesian inversion methods. *Near Surface Geophysics*, **2012**, 10, 641-652	1.6	16
315	Upward Transport in a Three-Dimensional Heterogeneous Laboratory Soil under Evaporation Conditions. *Vadose Zone Journal*, **2012**, 11, vzj2011.0066	2.7	16
314	Effect of antenna-medium coupling in the analysis of ground-penetrating radar data. *Near Surface Geophysics*, **2012**, 10, 631-639	1.6	16
313	Multivariate conditional stochastic simulation of soil heterotrophic respiration at plot scale. *Geoderma*, **2010**, 160, 74-82	6.7	16
312	Feasibility of Sequential and Coupled Inversion of Time Domain Reflectometry Data to Infer Soil Hydraulic Parameters under Falling Head Infiltration. *Soil Science Society of America Journal*, **2011**, 75, 775-786	2.5	16
311	A grid refinement approach for a three-dimensional soil-root water transfer model. *Water Resources Research*, **2009**, 45,	5.4	16
310	One-Dimensional Modeling of Transport in Soils with Depth-Dependent Dispersion, Sorption and Decay. *Vadose Zone Journal*, **2007**, 6, 140-148	2.7	16
309	Soil Heterogeneity Effects on Solute Breakthrough Sampled with Suction Cups: Numerical Simulations. *Vadose Zone Journal*, **2006**, 5, 886-893	2.7	16
308	Organoclays for Aquifer Bioremediation: Adsorption of Chlorobenzene on Organoclays and its Degradation by RHODOCOCCUS B528. *Water, Air and Soil Pollution*, **2006**, 6, 317-329		16
307	Pesticide volatilization from plants: improvement of the PEC model PELMO based on a boundary-layer concept. *Environmental Science & Technology*, **2004**, 38, 2885-93	10.3	16

306	The integrated water balance and soil data set of the Rollesbroich hydrological observatory. *Earth System Science Data*, **2016**, 8, 517-529	10.5	16
305	A Three-Dimensional View on Soil Biogeochemistry: A Dataset for a Forested Headwater Catchment. *Journal of Environmental Quality*, **2017**, 46, 210-218	3.4	15
304	Large variability in CO and N O emissions and in N site preference of N O from reactions of nitrite with lignin and its derivatives at different pH. *Rapid Communications in Mass Spectrometry*, **2017**, 31, 1333-1343	2.2	15
303	Accounting for seasonal isotopic patterns of forest canopy intercepted precipitation in streamflow modeling. *Journal of Hydrology*, **2017**, 555, 31-40	6	15
302	Simulation of spatial variability in crop leaf area index and yield using agroecosystem modeling and geophysics-based quantitative soil information. *Vadose Zone Journal*, **2020**, 19, e20009	2.7	15
301	Spatiotemporal Analysis of Dissolved Organic Carbon and Nitrate in Waters of a Forested Catchment Using Wavelet Analysis. *Vadose Zone Journal*, **2017**, 16, vzj2016.09.0077	2.7	15
300	Validation of a minimum microclimate disturbance chamber for net ecosystem flux measurements. *Agricultural and Forest Meteorology*, **2013**, 174-175, 1-14	5.8	15
299	Inversion of dispersive GPR pulse propagation in waveguides with heterogeneities and rough and dipping interfaces. *Journal of Applied Geophysics*, **2012**, 81, 88-96	1.7	15
298	Effect of pesticide fate parameters and their uncertainty on the selection of 'worst-case' scenarios of pesticide leaching to groundwater. *Pest Management Science*, **2011**, 67, 294-306	4.6	15
297	Efficient loop antenna modeling for zero-offset, off-ground electromagnetic induction in multilayered media. *Geophysics*, **2010**, 75, WA125-WA134	3.1	15
296	Modelling phosphorus inputs from agricultural sources and urban areas in river basins. *Environmental Geology*, **2009**, 57, 183-193		15
295	Field experiment on spray drift: deposition and airborne drift during application to a winter wheat crop. *Science of the Total Environment*, **2008**, 405, 269-77	10.2	15
294	Memory effects induced by dependence on initial conditions and ergodicity of transport in heterogeneous media. *Water Resources Research*, **2008**, 44,	5.4	15
293	Simple Linear Model for Calibration of Time Domain Reflectometry Measurements on Solute Concentration. *Soil Science Society of America Journal*, **1998**, 62, 83-89	2.5	15
292	Sorption Characteristics of Chlordecone and Cadusafos in Tropical Agricultural Soils. *Current Organic Chemistry*, **2013**, 17, 2976-2984	1.7	15
291	Simultaneous soil moisture and properties estimation for a drip irrigated field by assimilating cosmic-ray neutron intensity. *Journal of Hydrology*, **2016**, 539, 611-624	6	15
290	Investigation of Kinetic Isotopic Fractionation of Water During Bare Soil Evaporation. *Water Resources Research*, **2018**, 54, 6909-6928	5.4	15
289	High resolution modelling of soil moisture patterns with TerrSysMP: A comparison with sensor network data. *Journal of Hydrology*, **2017**, 547, 309-331	6	14

288	Long-term sorption and sequestration dynamics of the antibiotic sulfadiazine: a batch study. *Journal of Environmental Quality*, **2012**, 41, 1497-506	3.4	14
287	Temporal Downscaling of Soil Carbon Dioxide Efflux Measurements Based on Time-Stable Spatial Patterns. *Vadose Zone Journal*, **2011**, 10, 239-251	2.7	14
286	Persistent memory of diffusing particles. *Physical Review E*, **2009**, 80, 061134	2.4	14
285	Organic-carbon fractions in an agricultural topsoil assessed by the determination of the soil mineral surface area. *Journal of Plant Nutrition and Soil Science*, **2010**, 173, 699-705	2.3	14
284	Pesticide fate at regional scale: Development of an integrated model approach and application. *Physics and Chemistry of the Earth*, **2005**, 30, 542-549	3	14
283	COMPARISON OF MULTIDISCIPLINARY APPROACHES AND UNIFICATION OF CONCEPTS ON THE MOVEMENT OF WATER AND SOIL IN DEFORMABLE POROUS MEDIA. *Soil Science*, **1993**, 156, 141-148	0.9	14
282	Co-transport of multi-walled carbon nanotubes and sodium dodecylbenzenesulfonate in chemically heterogeneous porous media. *Environmental Pollution*, **2019**, 247, 907-916	9.3	14
281	Investigating the root plasticity response of Centaurea jacea to soil water availability changes from isotopic analysis. *New Phytologist*, **2020**, 226, 98-110	9.8	14
280	The contribution of hydroxylamine content to spatial variability of N2O formation in soil of a Norway spruce forest. *Geochimica Et Cosmochimica Acta*, **2016**, 178, 76-86	5.5	14
279	Comparison of different assimilation methodologies of groundwater levels to improve predictions of root zone soil moisture with an integrated terrestrial system model. *Advances in Water Resources* , **2018**, 111, 224-238	4.7	14
278	CPlantBox, a whole-plant modelling framework for the simulation of water- and carbon-related processes. *In Silico Plants*, **2020**, 2,	3.2	13
277	Soil apparent conductivity measurements for planning and analysis of agricultural experiments: A case study from Western-Thailand. *Geoderma*, **2016**, 267, 220-229	6.7	13
276	Radius estimation of subsurface cylindrical objects from ground-penetrating-radar data using full-waveform inversion. *Geophysics*, **2018**, 83, H43-H54	3.1	13
275	Do Chernobyl-like contaminations with (137)Cs and (90)Sr affect the microbial community, the fungal biomass and the composition of soil organic matter in soil?. *Journal of Environmental Radioactivity*, **2013**, 118, 21-9	2.4	13
274	NMR velocimetry with 13-interval stimulated echo multi-slice imaging in natural porous media under low flow rates. *Journal of Magnetic Resonance*, **2011**, 212, 216-23	3	13
273	Hydrogeophysics: An Introduction from the Guest Editors. *Vadose Zone Journal*, **2004**, 3, 1060-1062	2.7	13
272	Vegetation Optical Depth and Soil Moisture Retrieved from L-Band Radiometry over the Growth Cycle of a Winter Wheat. *Remote Sensing*, **2018**, 10, 1637	5	13
271	Evaluation and uncertainty analysis of regional-scale CLM4.5 net carbon flux estimates. *Biogeosciences*, **2018**, 15, 187-208	4.6	13

270	Source partitioning of H₂O and CO₂ fluxes based on high-frequency eddy covariance data: a comparison between study sites. *Biogeosciences*, **2019**, 16, 1111-1132	4.6	12
269	Quantitative multi-layer electromagnetic induction inversion and full-waveform inversion of crosshole ground penetrating radar data. *Journal of Earth Science (Wuhan, China)*, **2015**, 26, 844-850	2.2	12
268	Temporal Monitoring of the Soil Freeze-Thaw Cycles over a Snow-Covered Surface by Using Air-Launched Ground-Penetrating Radar. *Remote Sensing*, **2015**, 7, 12041-12056	5	12
267	Accurate Determination of the Bulk Electrical Conductivity with the TDR100 Cable Tester. *Soil Science Society of America Journal*, **2010**, 74, 495-501	2.5	12
266	Identifying dispersive GPR signals and inverting for surface wave-guide properties. *The Leading Edge*, **2009**, 28, 1234-1239	1	12
265	Bayesian inverse modelling of in situ soil water dynamics: using prior information about the soil hydraulic properties **2011**,		12
264	Aerial photograph-based delineation of artificially drained areas as a basis for water balance and phosphorus modelling in large river basins. *Physics and Chemistry of the Earth*, **2009**, 34, 552-564	3	12
263	The 15N-CPMAS spectra of simazine and its metabolites: measurements and quantum chemical calculations. *European Journal of Soil Science*, **2007**, 58, 882-888	3.4	12
262	Microbial community changes during humification of 14C-labelled maize straw in heat-treated and native Orthic Luvisol. *European Journal of Soil Science*, **2006**, 57, 446-455	3.4	12
261	Characterization of Field Tracer Transport Using High-Resolution Images. *Vadose Zone Journal*, **2005**, 4, 101-111	2.7	12
260	Water Retention and Pore Size Distribution of a Biopolymeric-Amended Loam Soil. *Vadose Zone Journal*, **2019**, 18, 1	2.7	12
259	Monitoring Soil Water Content Using Time-Lapse Horizontal Borehole GPR Data at the Field-Plot Scale. *Vadose Zone Journal*, **2019**, 18, 190044	2.7	12
258	Call for Participation: Collaborative Benchmarking of Functional-Structural Root Architecture Models. The Case of Root Water Uptake. *Frontiers in Plant Science*, **2020**, 11, 316	6.2	12
257	Responses of soil water storage and crop water use efficiency to changing climatic conditions: a lysimeter-based space-for-time approach. *Hydrology and Earth System Sciences*, **2020**, 24, 1211-1225	5.5	12
256	Simulating transpiration and leaf water relations in response to heterogeneous soil moisture and different stomatal control mechanisms. *Plant and Soil*, **2015**, 394, 109-126	4.2	11
255	Drying of a Natural Soil Under Evaporative Conditions: A Comparison of Different Magnetic Resonance Methods. *Applied Magnetic Resonance*, **2016**, 47, 121-138	0.8	11
254	Evaluation of an operational real-time irrigation scheduling scheme for drip irrigated citrus fields in Picassent, Spain. *Agricultural Water Management*, **2018**, 208, 465-477	5.9	11
253	Can Drip Irrigation be Scheduled with Cosmic-Ray Neutron Sensing?. *Vadose Zone Journal*, **2019**, 18, 190053	2.7	11

252	Calibration, Conversion, and Quantitative Multi-Layer Inversion of Multi-Coil Rigid-Boom Electromagnetic Induction Data. *Sensors*, **2019**, 19,	3.8	11
251	Pyrene and phenanthrene sorption to model and natural geosorbents in single- and binary-solute systems. *Environmental Science & Technology*, **2010**, 44, 8102-7	10.3	11
250	On preconditioning for a parallel solution of the Richards equation. *Computers and Geosciences*, **2008**, 34, 1958-1963	4.5	11
249	Glyphosate behavior in a Rhodic Oxisol under no-till and conventional agricultural systems. *Revista Brasileira De Ciencia Do Solo*, **2005**, 29, 61-69	1.5	11
248	ON THE CHARACTERIZATION OF PROPERTIES OF AN UNRIPE MARINE CLAY SOIL II. A METHOD ON THE DETERMINATION OF HYDRAULIC PROPERTIES. *Soil Science*, **1992**, 154, 59-72	0.9	11
247	Spatial and seasonal variability of heterotrophic and autotrophic soil respiration in a winter wheat stand		11
246	Projected impact of climate change on irrigation needs and groundwater resources in the metropolitan area of Hamburg (Germany). *Environmental Earth Sciences*, **2016**, 75, 1	2.9	11
245	Comparative Study of Statistical, Numerical and Machine Learning-based Pedotransfer Functions of Water Retention Curve with Particle Size Distribution Data. *Eurasian Soil Science*, **2019**, 52, 1555-1571	1.5	11
244	Hydroxylamine Contributes More to Abiotic N2O Production in Soils Than Nitrite. *Frontiers in Environmental Science*, **2019**, 7,	4.8	10
243	Soil Hydraulic Parameters of Bare Soil Plots with Different Soil Structure Inversely Derived from L-Band Brightness Temperatures. *Vadose Zone Journal*, **2015**, 14, vzj2014.09.0133	2.7	10
242	Geophysical Methods for Field-Scale Imaging of Root Zone Properties and Processes. *SSSA Special Publication Series*, **2015**, 247-282	0	10
241	In situ determination of surface relaxivities for unconsolidated sediments. *Water Resources Research*, **2015**, 51, 6549-6563	5.4	10
240	Transport of sulfadiazine in undisturbed soil columns: effects of flow rate, input concentration and pulse duration. *Journal of Environmental Quality*, **2010**, 39, 2147-59	3.4	10
239	Comment on "Global convergence in the temperature sensitivity of respiration at ecosystem level". *Science*, **2011**, 331, 1265; author reply 1265	33.3	10
238	Hydrogeophysics: An Introduction from the Guest Editors. *Vadose Zone Journal*, **2004**, 3, 1060-1062	2.7	10
237	Time variability and uncertainty in the fraction of young water in a small headwater catchment. *Hydrology and Earth System Sciences*, **2019**, 23, 4333-4347	5.5	10
236	Effect of fertilizers and irrigation on multi-configuration electromagnetic induction measurements. *Soil Use and Management*, **2020**, 36, 104-116	3.1	10
235	Toward operational validation systems for global satellite-based terrestrial essential climate variables. *International Journal of Applied Earth Observation and Geoinformation*, **2021**, 95, 102240	7.3	10

234	Characterizing Redox Potential Effects on Greenhouse Gas Emissions Induced by Water-Level Changes. *Vadose Zone Journal*, **2018**, 17, 170152	2.7	10
233	Geophysical imaging of regolith in landscapes along a climate and vegetation gradient in the Chilean coastal cordillera. *Catena*, **2019**, 180, 146-159	5.8	9
232	Effects of Deforestation on Water Flow in the Vadose Zone. *Water (Switzerland)*, **2020**, 12, 35	3	9
231	Estimation of the near surface soil water content during evaporation using air-launched ground-penetrating radar. *Near Surface Geophysics*, **2014**, 12, 623-634	1.6	9
230	Development and drift-analysis of a modular electromagnetic induction system for shallow ground conductivity measurements. *Measurement Science and Technology*, **2014**, 25, 055801	2	9
229	Fate of two herbicides in zero-tension lysimeters and in field soil. *Journal of Environmental Quality*, **2010**, 39, 1451-66	3.4	9
228	Comment on Field observations of soil moisture variability across scales by James S. Famiglietti et al.. *Water Resources Research*, **2008**, 44,	5.4	9
227	An improved description of pesticide volatilization: refinement of the pesticide leaching model (PELMO). *Journal of Environmental Quality*, **2004**, 33, 1629-37	3.4	9
226	Magnetometric Resistivity (MMR) Imaging of Subsurface Solute Flow: Inversion Framework and Laboratory Tests. *Journal of Environmental and Engineering Geophysics*, **2002**, 7, 111-118	1	9
225	Modeling Sorption and Exchange Processes in Column Experiments and Large Scale Field Studies. *Mine Water and the Environment*, **2002**, 21, 15-23	2.4	9
224	Statistical regression. *Developments in Soil Science*, **2004**, 3-19	1.3	9
223	Modeling Water Flow and Pesticide Transport at Lysimeter and Field Scale. *ACS Symposium Series*, **1998**, 189-202	0.4	9
222	The effect of soil heterogeneity and hysteresis on solute transport: a numerical experiment. *Ecological Modelling*, **1995**, 77, 273-288	3	9
221	Prediction of dynamic hydraulic properties in a ripening soil. *Geoderma*, **1993**, 57, 231-246	6.7	9
220	Errors in Modeling Carbon Turnover Induced by Temporal Temperature Aggregation. *Vadose Zone Journal*, **2011**, 10, 195-205	2.7	9
219	Inverse modelling of in situ soil water dynamics: accounting for heteroscedastic, autocorrelated, and non-Gaussian distributed residuals		9
218	Simultaneous calibration and inversion algorithm for multiconfiguration electromagnetic induction data acquired at multiple elevations. *Geophysics*, **2019**, 84, EN1-EN14	3.1	9
217	Investigating the correlation between soil tensile strength curve and soil water retention curve via modeling. *Soil and Tillage Research*, **2017**, 167, 9-29	6.5	8

216	Estimation of subsurface cylindrical object properties from GPR full-waveform inversion **2017**,		8
215	Modelling groundwater evapotranspiration in a shallow aquifer in a semi-arid environment. *Journal of Hydrology*, **2020**, 587, 124967	6	8
214	Pesticide contamination of the upper Elbe River and an adjacent floodplain area. *Journal of Soils and Sediments*, **2020**, 20, 2067-2081	3.4	8
213	Cross-disciplinary links in environmental systems science: Current state and claimed needs identified in a meta-review of process models. *Science of the Total Environment*, **2018**, 622-623, 954-973	10.2	8
212	Spatio-temporal Variations of Dissolved Organic Matter in a German Forested Mountainous Headwater Catchment. *Vadose Zone Journal*, **2015**, 14, vzj2015.01.0005	2.7	8
211	Diffusion-controlled mobilization of water-dispersible colloids from three German silt loam topsoils: effect of temperature. *European Journal of Soil Science*, **2013**, 64, 777-786	3.4	8
210	On the role of metabolic activity on the transport und deposition of Pseudomonas fluorescens in saturated porous media. *Water Research*, **2010**, 44, 1288-96	12.5	8
209	Novel chamber to measure equilibrium soil-air partitioning coefficients of low-volatility organic chemicals under conditions of varying temperature and soil moisture. *Environmental Science & Technology*, **2008**, 42, 4870-6	10.3	8
208	Analysis of the long-term behavior of solute transport with nonlinear equilibrium sorption using breakthrough curves and temporal moments. *Journal of Contaminant Hydrology*, **2002**, 56, 271-94	3.9	8
207	Induced Polarization of Unsaturated Sands Determined through Time Domain Measurements. *Vadose Zone Journal*, **2004**, 3, 1160-1168	2.7	8
206	Comment on the paper, Evaluation of pedo-transfer functions for unsaturated soil hydraulic conductivity using an independent data set *Geoderma*, **2002**, 108, 145-147	6.7	8
205	Three-Dimensional Nickel Ion Transport through Porous Media Using Magnetic Resonance Imaging. *Journal of Environmental Quality*, **2002**, 31, 506	3.4	8
204	KEYLINK: towards a more integrative soil representation for inclusion in ecosystem scale models. I. review and model concept. *PeerJ*, **2020**, 8, e9750	3.1	8
203	Sensitivity analysis of a source partitioning method for H2O and CO2 fluxes based on high frequency eddy covariance data: Findings from field data and large eddy simulations. *Agricultural and Forest Meteorology*, **2019**, 265, 152-170	5.8	8
202	Field evaluation of broadband spectral electrical imaging for soil and aquifer characterization. *Journal of Applied Geophysics*, **2018**, 159, 484-496	1.7	8
201	SOLUTE TRANSPORT PROCESSES **2006**, 117-159		8
200	On the impact of increasing drought on the relationship between soil water content and evapotranspiration of a grassland. *Vadose Zone Journal*, **2020**, 19, e20029	2.7	7
199	Effects of low-level radioactive soil contamination and sterilization on the degradation of radiolabeled wheat straw. *Journal of Environmental Radioactivity*, **2012**, 109, 29-35	2.4	7

198	Relationship Between Vegetation Microwave Optical Depth and Cross-Polarized Backscatter From Multiyear Aquarius Observations. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, **2017**, 10, 4493-4503	4.7	7
197	Spectral induced polarization for the characterisation of biochar in sand. *Near Surface Geophysics*, **2017**, 15, 645-656	1.6	7
196	A New TDR Multiplexing System for Reliable Electrical Conductivity and Soil Water Content Measurements. *Vadose Zone Journal*, **2013**, 12, vzj2012.0194	2.7	7
195	Uncertainty in Pesticide Monitoring Using Suction Cups: Evidence from Numerical Simulations. *Vadose Zone Journal*, **2011**, 10, 1287-1298	2.7	7
194	Research at the Agrosphere Institute: From the Process Scale to the Catchment Scale. *Vadose Zone Journal*, **2009**, 8, 664-669	2.7	7
193	Full-waveform inversion of GPR data in frequency-domain **2012**,		7
192	Comparison of three stream tube models predicting field-scale solute transport. *Hydrology and Earth System Sciences*, **1997**, 1, 873-893	5.5	7
191	Three-Dimensional Nickel Ion Transport through Porous Media Using Magnetic Resonance Imaging. *Journal of Environmental Quality*, **2002**, 31, 506-514	3.4	7
190	Study of enzyme-catalysed and noncatalysed interactions between soil humic acid and 13 C-labelled 2-aminobenzothiazole using solid-state 13 C NMR spectroscopy. *Organic Geochemistry*, **2002**, 33, 1727-1735	3.1	7
189	Transport von gel□sten Stoffen im Grundwasser □Untersuchungen am Testfeld Krauthausen. *Grundwasser*, **2000**, 5, 115-124	1.1	7
188	Asymptotic Analysis of Solute Transport with Linear Nonequilibrium Sorption in Porous Media. *Transport in Porous Media*, **1999**, 36, 189-210	3.1	7
187	Analytical Solutions of Three-Dimensional Convection-Dispersion Problems with Time Dependent Coefficients. *ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik*, **1999**, 79, 411-421	1	7
186	A Schwarz domain decomposition method for solution of transient unsaturated water flow on parallel computers. *Ecological Modelling*, **1996**, 93, 275-289	3	7
185	Measurement depth effects on the apparent temperature sensitivity of soil respiration in field studies		7
184	Effect of solute concentration on the spectral induced polarization response of calcite precipitation. *Geophysical Journal International*, **2020**, 220, 1187-1196	2.6	7
183	Crop growth and soil water fluxes at erosion-affected arable sites: Using weighing lysimeter data for model intercomparison. *Vadose Zone Journal*, **2020**, 19, e20058	2.7	7
182	Soil hydraulic properties estimation from one-dimensional infiltration experiments using characteristic time concept. *Vadose Zone Journal*, **2020**, 19, e20068	2.7	7
181	Choice of Pedotransfer Functions Matters when Simulating Soil Water Balance Fluxes. *Journal of Advances in Modeling Earth Systems*, **2021**, 13, e2020MS002404	7.1	7

180	Modeling of Multilayered Media Green's Functions With Rough Interfaces. *IEEE Transactions on Geoscience and Remote Sensing*, **2019**, 57, 7671-7681	8.1	6
179	Quantitative imaging of spectral electrical properties of variably saturated soil columns. *Journal of Applied Geophysics*, **2015**, 123, 333-344	1.7	6
178	Pedotransfer Function for the Brunswick Soil Hydraulic Property Model and Comparison to the van Genuchten-Mualem Model. *Water Resources Research*, **2020**, 56, e2019WR026820	5.4	6
177	Simultaneous multichannel multi-offset ground-penetrating radar measurements for soil characterization. *Vadose Zone Journal*, **2020**, 19, e20017	2.7	6
176	Problems associated to kinetic fitting of incubation data. *Soil Biology and Biochemistry*, **2018**, 120, 260-271	7.5	6
175	GPR full-waveform inversion of a variably saturated soil-aquifer system. *Journal of Applied Geophysics*, **2019**, 170, 103823	1.7	6
174	Transition of stage I to stage II evaporation regime in the topmost soil: High-resolution NMR imaging, profiling and numerical simulation. *Microporous and Mesoporous Materials*, **2015**, 205, 3-6	5.3	6
173	Radiation-induced impacts on the degradation of 2,4-D and the microbial population in soil microcosms. *Journal of Environmental Radioactivity*, **2013**, 115, 168-74	2.4	6
172	Inversion and sensitivity analysis of GPR data with waveguide dispersion using Markov Chain Monte Carlo simulation **2010**,		6
171	Solute Spreading under Transient Conditions in a Field Soil. *Vadose Zone Journal*, **2009**, 8, 690-702	2.7	6
170	Comment on Root Water Extraction and Limiting Soil Hydraulic Conditions Estimated by Numerical Simulation *Vadose Zone Journal*, **2007**, 6, 524-526	2.7	6
169	Fluorescence macrophotography as a tool to visualise and quantify spatial distribution of deposited colloid tracers in porous media. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2007**, 306, 118-125	5.1	6
168	Numerical Modeling of Large Scale Transport of Contminant Solutes Using the Global Random Walk Algorithm. *Monte Carlo Methods and Applications*, **2004**, 10, 153-177	0.4	6
167	A Lagrangian Stochastic Model for the Transport in Statistically Homogeneous Porous Media. *Monte Carlo Methods and Applications*, **2003**, 9,	0.4	6
166	Transport of solutes undergoing a Freundlich type nonlinear and nonequilibrium adsorption process. *Physical Review E*, **2002**, 65, 041402	2.4	6
165	Quantification of physical ripening in an unripe marine clay soil. *Geoderma*, **1993**, 58, 67-77	6.7	6
164	Design and Importance of Multi-tiered Ecological Monitoring Networks **2010**, 355-374		6
163	Statistical Exploration of SENTINEL-1 Data, Terrain Parameters, and in-situ Data for Estimating the Near-Surface Soil Moisture in a Mediterranean Agroecosystem. *Frontiers in Water*, **2021**, 3,	2.6	6

162	New Vadose Zone Journal Initiatives for 2016. *Vadose Zone Journal*, **2016**, 15, vzj2016.01.0001.letter.ed	2.7	6
161	The SARSense Campaign: Air- and Space-Borne C- and L-Band SAR for the Analysis of Soil and Plant Parameters in Agriculture. *Remote Sensing*, **2021**, 13, 825	5	6
160	Magnetic Resonance Monitoring and Numerical Modeling of Soil Moisture during Evaporation. *Vadose Zone Journal*, **2018**, 17, 160099	2.7	6
159	Numerical and Experimental Investigations of Cesium and Strontium Sorption and Transport in Agricultural Soils. *Vadose Zone Journal*, **2018**, 17, 170126	2.7	6
158	Hydrogeophysical Techniques for Site Characterization and Monitoring: Recent Advances in Ground-penetrating Radar. *NATO Science for Peace and Security Series C: Environmental Security*, **2008**, 183-202	0.3	6
157	Parameter sensitivity analysis of a root system architecture model based on virtual field sampling. *Plant and Soil*, **2019**, 438, 101-126	4.2	5
156	2.5D crosshole GPR full-waveform inversion with synthetic and measured data. *Geophysics*, **2020**, 85, H71-H82	3.1	5
155	A Dataset for Three-Dimensional Distribution of 39 Elements Including Plant Nutrients and Other Metals and Metalloids in the Soils of a Forested Headwater Catchment. *Journal of Environmental Quality*, **2017**, 46, 1510-1518	3.4	5
154	Effect of magnetic pore surface coating on the NMR relaxation and diffusion signal in quartz sand. *Magnetic Resonance in Chemistry*, **2016**, 54, 975-984	2.1	5
153	Visualization of transport pathways for organic compounds in undisturbed soil monoliths. *Geoderma*, **2013**, 195-196, 70-78	6.7	5
152	Full-waveform inversion of multi-offset surface GPR data **2010**,		5
151	Determination of the distribution of air and water in porous media by electrical impedance tomography and magneto-electrical imaging. *Nuclear Engineering and Design*, **2011**, 241, 1959-1969	1.8	5
150	High-Resolution Virtual Catchment Simulations of the Subsurface-Land Surface-Atmosphere System		5
149	Long-term and high frequency non-destructive monitoring of water stable isotope profiles in an evaporating soil column		5
148	Volatilization of [14C] fluoranthene and [14C] diflufenican after soil surface application under field-like conditions: measurement and comparison with different model approaches. *Agronomy for Sustainable Development*, **2002**, 22, 337-350		5
147	Towards 3D full-waveform inversion of crosshole GPR data **2016**,		5
146	APPLIED HYDROGEOPHYSICS **2006**, 1-8		5
145	Catchment tomography - An approach for spatial parameter estimation. *Advances in Water Resources*, **2017**, 107, 147-159	4.7	4

144	Water Retention and Pore Size Distribution of a Biopolymeric-Amended Loam Soil. *Vadose Zone Journal*, **2019**, 18, 1-13	2.7	4
143	Upscaling Issues in Ecohydrological Observations. *Ecohydrology*, **2019**, 435-454	0.2	4
142	Using electrical anisotropy for structural characterization of sediments: an experimental validation study. *Near Surface Geophysics*, **2016**, 14, 357-369	1.6	4
141	3D aquifer characterization of the Hermalle-sous-Argenteau test site using crosshole ground-penetrating radar amplitude analysis and full-waveform inversion. *Geophysics*, **2020**, 85, H133-H148	3.1	4
140	Gas Permeability of Salt Crusts Formed by Evaporation from Porous Media. *Geosciences (Switzerland)*, **2020**, 10, 423	2.7	4
139	Measuring vertical soil water content profiles by combining horizontal borehole and dispersive surface ground penetrating radar data. *Near Surface Geophysics*, **2020**, 18, 275-294	1.6	4
138	Assessment of the position accuracy of a single-frequency GPS receiver designed for electromagnetic induction surveys. *Precision Agriculture*, **2019**, 20, 19-39	5.6	4
137	Assimilation of High-Resolution Soil Moisture Data Into an Integrated Terrestrial Model for a Small-Scale Head-Water Catchment. *Water Resources Research*, **2019**, 55, 10358-10385	5.4	4
136	Magnetic Resonance Imaging Techniques for Visualization of Root Growth and Root Water Uptake Processes. *SSSA Special Publication Series*, **2015**, 137-156	0	4
135	Electromagnetic characterization of organic-rich soils at the microwave L-band with ground-penetrating radar, radiometry and laboratory measurements **2014**,		4
134	Active and passive L-band microwave remote sensing for soil moisture A test-bed for SMAP fusion algorithms **2014**,		4
133	Konzeptionelles hydrogeologisches Modell zur Analyse und Bewertung von Verweilzeiten in Hessen. *Grundwasser*, **2011**, 16, 163-176	1.1	4
132	Simulating decomposition of 14C-labelled fresh organic matter in bulk soil and soil particle fractions at various temperatures and moisture contents. *European Journal of Soil Science*, **2010**, 61, 940-949	3.4	4
131	Radio brightness validation on different spatial scales during the SMOS validation campaign 2010 in the Rur catchment, Germany **2011**,		4
130	Effects of mineral surface iron on the CPMAS 13C-NMR spectroscopic detection of organic matter from soil fractions in an agricultural topsoil with different amendments. *European Journal of Soil Science*, **2008**, 59, 592-599	3.4	4
129	Molecular characterisation of the bonding of herbicide metabolites to humic acid. *Computational and Theoretical Chemistry*, **2006**, 759, 133-136		4
128	A Blueprint for a Distributed Terrestrial Ecosystem Research Infrastructure **2017**, 279-303		4
127	Solute transport in aquifers with evolving scale heterogeneity. *Analele Stiintifice Ale Universitatii Ovidius Constanta, Seria Matematica*, **2015**, 23, 167-186	0.4	4

126	Speciation and distribution of P associated with Fe and Al oxides in aggregate-sized fraction of an arable soil		4
125	Actual evapotranspiration and precipitation measured by lysimeters: a comparison with eddy covariance and tipping bucket		4
124	CRootBox: A structural-functional modelling framework for root systems		4
123	Sequential and coupled inversion of horizontal borehole ground penetrating radar data to estimate soil hydraulic properties at the field scale. *Journal of Hydrology*, **2021**, 596, 126010	6	4
122	Estimating Gravimetric Water Content of a Winter Wheat Field from L-Band Vegetation Optical Depth. *Remote Sensing*, **2019**, 11, 2353	5	4
121	Development and Uncertainty Assessment of Pedotransfer Functions for Predicting Water Contents at Specific Pressure Heads. *Vadose Zone Journal*, **2019**, 18, 190063	2.7	4
120	The Effect of Bedrock Topography on Timing and Location of Landslide Initiation Using the Local Factor of Safety Concept. *Water (Switzerland)*, **2018**, 10, 1290	3	4
119	Reanalysis in Earth System Science: Toward Terrestrial Ecosystem Reanalysis. *Reviews of Geophysics* , **2021**, 59, e2020RG000715	23.1	4
118	From hydraulic root architecture models to macroscopic representations of root hydraulics in soil water flow and land surface models. *Hydrology and Earth System Sciences*, **2021**, 25, 4835-4860	5.5	4
117	Large-scale detection and quantification of harmful soil compaction in a post-mining landscape using multi-configuration electromagnetic induction. *Soil Use and Management*,	3.1	4
116	Simulating rhizodeposition patterns around growing and exuding root systems. *In Silico Plants*,	3.2	4
115	No effect of digestate amendment on Cs-137 and Sr-90 translocation in lysimeter experiments. *Chemosphere*, **2017**, 172, 310-315	8.4	3
114	Effects of temperature and associated organic carbon on the fractionation of water-dispersible colloids from three silt loam topsoils under different land use. *Geoderma*, **2017**, 299, 43-53	6.7	3
113	Accounting for Surface Roughness Scattering in the Characterization of Forest Litter with Ground-Penetrating Radar. *Remote Sensing*, **2019**, 11, 828	5	3
112	Effect of short-term variations of environmental conditions on atmospheric CO18O isoforcing of different plant species. *Agricultural and Forest Meteorology*, **2015**, 201, 128-140	5.8	3
111	Evaluation of different methods for gap filling of long-term actual evapotranspiration time series measured by lysimeters. *Vadose Zone Journal*, **2020**, 19, e20020	2.7	3
110	GPR full-waveform inversion, recent developments, and future opportunities **2018**,		3
109	Invigorating hydrological research through journal publications. *Hydrological Sciences Journal*, **2018**, 63, 1113-1117	3.5	3

108	Spectral Induced Polarization of Biochar in Variably Saturated Soil. *Vadose Zone Journal*, **2019**, 18, 1-13	2.7	3
107	Influences of perfluorooctanoic acid on the aggregation of multi-walled carbon nanotubes. *Journal of Environmental Sciences*, **2013**, 25, 466-72	6.4	3
106	New improved algorithm for sky calibration of L-band radiometers J□BARA and ELBARA II **2012**,		3
105	On the origin of slow processes of charge transport in porous media. *Philosophical Magazine*, **2012**, 92, 4628-4648	1.6	3
104	Influence of interface roughness and heterogeneities on the waveguide inversion of dispersive GPR data **2010**,		3
103	High resolution imaging of the unsaturated and saturated zones of a gravel aquifer using full-waveform inversion **2011**,		3
102	Investigation of water content and dynamics of a Ricinus root system in unsaturated sand by means of SPRITE and CISS: correlation of root architecture and water content change. *Magnetic Resonance Imaging*, **2007**, 25, 579-580	3.3	3
101	Dynamics of benazolin under the influence of degrading maize straw in undisturbed soil columns. *Environmental Toxicology and Chemistry*, **2007**, 26, 2151-7	3.8	3
100	Direct determination of hydrophobic organic compounds in aqueous solution in the presence of dissolved organic carbon by high-performance liquid chromatography. *Chemosphere*, **1999**, 39, 2365-2374	8.4	3
99	Comments on □ime Domain Reflectometry Laboratory Calibration in Travel Time, Bulk Electrical Conductivity, and Effective Frequency□*Vadose Zone Journal*, **2006**, 5, 1071-1072	2.7	3
98	Non-Invasive 3D Conductivity Measurements During Flow Experiments in Columns with Merit **2004**,		3
97	DasPy 1.0 □he Open Source Multivariate Land Data Assimilation Framework in combination with the Community Land Model 4.5		3
96	Return of crop residues to arable land stimulates N2O emission but mitigates NO3□leaching: a meta-analysis. *Agronomy for Sustainable Development*, **2021**, 41, 1	6.8	3
95	Constraining water limitation of photosynthesis in a crop growth model with sun-induced chlorophyll fluorescence. *Remote Sensing of Environment*, **2021**, 267, 112722	13.2	3
94	Full-Waveform Modelling and Inversion of Ground-Penetrating Radar Data for Non-invasive Characterisation of Soil Hydrogeophysical Properties **2010**, 299-311		3
93	Call for participation: Collaborative benchmarking of functional-structural root architecture models. The case of root water uptake		3
92	Soil Nitrogen Dynamics in a Managed Temperate Grassland Under Changed Climatic Conditions. *Water (Switzerland)*, **2021**, 13, 931	3	3
91	Integrating ground-based and remote sensing-based monitoring of near-surface soil moisture in a Mediterranean environment **2019**,		3

90	Quantification of water stress induced within-field variability of carbon dioxide fluxes in a sugar beet stand. *Agricultural and Forest Meteorology*, **2021**, 297, 108242	5.8	3
89	Improving the representation of cropland sites in the Community Land Model (CLM) version 5.0. *Geoscientific Model Development*, **2021**, 14, 573-601	6.3	3
88	Simultaneous multi-channel GPR measurements for soil characterization **2018**,		3
87	The Footprint Characteristics of Cosmic Ray Thermal Neutrons. *Geophysical Research Letters*, **2021**, 48, e2021GL094281	4.9	3
86	Crosshole GPR full-waveform inversion and waveguide amplitude analysis: Recent developments and new challenges **2015**,		2
85	In Situ Detection of Tree Root Systems under Heterogeneous Anthropogenic Soil Conditions Using Ground Penetrating Radar. *Journal of Infrastructure Systems*, **2019**, 25, 05019008	2.9	2
84	A particle smoother with sequential importance resampling for radiative transfer parameter estimation **2013**,		2
83	Combining 15N-CP/MAS NMR and quantum chemistry to reveal the occurrence of proton transfer: The case of the aminobenzothiazole/carboxylic acid adduct. *Geoderma*, **2011**, 169, 4-12	6.7	2
82	Full-waveform modeling of ground-coupled GPR antennas for wave propagation in multilayered media: The problem solved? **2010**,		2
81	Explicit consideration of measurement uncertainty during Bayesian inversion of dispersive GPR data **2011**,		2
80	**2011**,		2
79	Determination of the macrodispersive parameters of a motion in a two-layer porous medium. *Acta Mechanica*, **1998**, 129, 117-126	2.1	2
78	Quantitative Imaging of 3D Solute Transport Using 2D Time-Lapse ERT: A Synthetic Feasibility Study **2004**,		2
77	Water supply from the groundwater table and the growth of poplar: A case study. *Agricultural and Forest Meteorology*, **1990**, 50, 65-74	5.8	2
76	Simulating water and nitrogen behaviour in soils cropped with winter wheat **1991**, 233-243		2
75	Parasite inversion for determining the coefficients and time-validity of Philip's two-term infiltration equation. *Vadose Zone Journal*, **2022**, 21,	2.7	2
74	Time-lapse ground-penetrating radar full-waveform inversion to detect tracer plumes: A numerical study **2018**,		2
73	Miscible Displacement, Sorption and Desorption of Atrazine in a Brazilian Oxisol. *Vadose Zone Journal*, **2003**, 2, 728-738	2.7	2

72	Simultaneous estimation of model state variables and observation and forecast biases using a two-stage hybrid Kalman filter		2
71	Coupled hydrogeophysical parameter estimation using a sequential Bayesian approach		2
70	HYDROLOGIC AND CRYOSPHERIC PROCESSES OBSERVED FROM SPACE. *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives*,XL-7/W3, 1101-1110	2.5	2
69	A spatialising tool to simulate pesticide fate in the unsaturated zone on a catchment scale. *Agronomy for Sustainable Development*, **2005**, 25, 279-283	6.8	2
68	Modelling velocity and retardation factor of a nonlinearly sorbing solute plume. *Soil Research*, **2005**, 43, 735	1.8	2
67	Integrating Invasive and Non-invasive Monitoring Sensors to Detect Field-Scale Soil Hydrological Behavior. *Frontiers in Water*, **2020**, 2,	2.6	2
66	Improving crosshole ground-penetrating radar full-waveform inversion results by using progressively expanded bandwidths of the data. *Near Surface Geophysics*, **2021**, 19, 465-487	1.6	2
65	Reviews and syntheses: Gaining insights into evapotranspiration partitioning with novel isotopic monitoring methods. *Biogeosciences*, **2021**, 18, 3701-3732	4.6	2
64	GPR full-waveform inversion of horizontal ZOP borehole data using GprMax **2016**,		2
63	Comparison of smoothness-constrained and geostatistically based cross-borehole electrical resistivity tomography for characterization of solute tracer plumes. *Water Science and Engineering*, **2016**, 9, 274-286	4	2
62	Quantitative imaging of P in plant materials using C polymer references. *Analytical and Bioanalytical Chemistry*, **2019**, 411, 1253-1260	4.4	2
61	. *IEEE Geoscience and Remote Sensing Letters*, **2021**, 18, 1530-1534	4.1	2
60	Prediction of soil evaporation measured with weighable lysimeters using the FAO Penman Monteith method in combination with Richards equation. *Vadose Zone Journal*, **2021**, 20, e20102	2.7	2
59	Toward high-resolution agronomic soil information and management zones delineated by ground-based electromagnetic induction and aerial drone data. *Vadose Zone Journal*, **2021**, 20, e20099	2.7	2
58	Joint editorial: Invigorating hydrological research through journal publications. *Hydrology and Earth System Sciences*, **2018**, 22, 5735-5739	5.5	2
57	Development and Validation of a Deep Learning Based Automated Minirhizotron Image Analysis Pipeline. *Plant Phenomics*, **2022**, 2022, 1-14	7	2
56	Remote Sensing of Instantaneous Drought Stress at Canopy Level Using Sun-Induced Chlorophyll Fluorescence and Canopy Reflectance. *Remote Sensing*, **2022**, 14, 2642	5	2
55	Strategies to Observe and Understand Processes and Drivers in the Biogeosphere. *Eos*, **2014**, 95, 16-16	1.5	1

54	Characterizing a low-velocity waveguide using crosshole GPR full-waveform inversion **2012**,		1
53	Estimation and validation of leaf area index time series for crops on 5M scale from space **2013**,		1
52	Full-waveform inversion of cross-hole GPR data measured at the boise gravel aquifer **2011**,		1
51	Estimation of radiative transfer parameters for soil moisture retrieval from SMOS brightness temperatures - a synthetic 1D experiment with the Particle Filter **2011**,		1
50	Active and passive airborne microwave remote sensing for soil moisture retrieval in the Rur catchment, Germany **2012**,		1
49	Time series analysis of SMOS and ASCAT: Soil moisture product validation in the Rur and Erft catchments **2012**,		1
48	Light fiber optic probe for measuring internal breakthrough of rare earth ion-labelled microspheres in porous media under unsaturated conditions. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2008**, 325, 173-179	5.1	1
47	Hydrogeophysical characterization of subsurface solute transport at the Krauthausen test site: experiments and numerical modelling **2005**, 221-237		1
46	Aquifer Characterization by Geophysical Methods **2005**,		1
45	Analysis of the Time Behaviour of a Diffusive Transport in a Stratified Medium **2001**, 45, 365-384		1
44	Reply [to Comment on Renormalization group analysis of macrodispersion in a directed random flow by U. Jaekel and H. Vereecken] *Water Resources Research*, **1998**, 34, 3199-3200	5.4	1
43	A Lagrangian Stochastic Model for the Transport in Statistically Homogeneous Porous Media		1
42	Improved resolution of ground penetrating radar full-waveform inversion by using cone penetration test data: A synthetic study **2019**,		1
41	Response of water fluxes and biomass production to climate change in permanent grassland soil ecosystems. *Hydrology and Earth System Sciences*, **2021**, 25, 6087-6106	5.5	1
40	Application of Spectral Induced Polarization and Electrical Impedance Tomography on Mixtures of Biochars and Active Carbons with Sand **2012**,		1
39	TerrSysMP-PDAF (version 1.0): a modular high-performance data assimilation framework for an integrated land surface–subsurface model		1
38	Correction of systematic model forcing bias of CLM using assimilation of cosmic-ray neutrons and land surface temperature: a study in the Heihe catchment, China		1
37	Miscible Displacement, Sorption and Desorption of Atrazine in a Brazilian Oxisol. *Vadose Zone Journal*, **2003**, 2, 728	2.7	1

36	Joint Editorial Invigorating Hydrological Research through Journal Publications. *Journal of Hydrology and Hydromechanics*, **2018**, 66, 257-260	2.1	1
35	CPlantBox, a whole plant modelling framework for the simulation of water and carbon related processes		1
34	Upscaling Issues in Ecohydrological Observations. *Ecohydrology*, **2018**, 1-21	0.2	1
33	Stable-Isotope-Aided Investigation of the Effect of Redox Potential on Nitrous Oxide Emissions as Affected by Water Status and N Fertilization. *Water (Switzerland)*, **2020**, 12, 2918	3	1
32	**2020**,		1
31	Improvement of ground-penetrating radar full-waveform inversion images using cone penetration test data. *Geophysics*, **2021**, 86, H13-H25	3.1	1
30	Added value of geophysics-based soil mapping in agro-ecosystem simulations. *Soil*, **2021**, 7, 125-143	5.8	1
29	Root architecture development in stony soils. *Vadose Zone Journal*, **2021**, 20, e20133	2.7	1
28	Presentation and discussion of the high-resolution atmospheric-land-surface-subsurface simulation dataset of the simulated Neckar catchment for the period 2007–2015. *Earth System Science Data*, **2021**, 13, 4437-4464	10.5	1
27	KEYLINK: towards a more integrative soil representation for inclusion in ecosystem scale models-II: model description, implementation and testing. *PeerJ*, **2021**, 9, e10707	3.1	1
26	Investigating Preferential Flow Processes in a Forest Soil Using Time Domain Reflectometry and Electrical Resistivity Tomography. *Vadose Zone Journal*, **2010**, 9, 350-361	2.7	1
25	Root System Scale Models Significantly Overestimate Root Water Uptake at Drying Soil Conditions.. *Frontiers in Plant Science*, **2022**, 13, 798741	6.2	1
24	Coupled full-waveform inversion of horizontal borehole ground penetrating radar data to estimate soil hydraulic parameters: A synthetic study. *Journal of Hydrology*, **2022**, 127817	6	1
23	Observing Ecohydrological Processes: Challenges and Perspectives. *Ecohydrology*, **2019**, 1-27	0.2	0
22	Coupling the Community Land Model version 5.0 to the parallel data assimilation framework PDAF: description and applications. *Geoscientific Model Development*, **2022**, 15, 395-411	6.3	0
21	GPR and EMI Characterization of the Hyperarid Study Site of Yungay, Chile: Implications of Applying Geophysical Methods on Mars. *Earth and Space Science*, **2021**, 8, e2021EA001790	3.1	0
20	Simplified characteristic time method for accurate estimation of the soil hydraulic parameters from one-dimensional infiltration experiments. *Vadose Zone Journal*, **2021**, 20, e20117	2.7	0
19	Bayesian inference of root architectural model parameters from synthetic field data. *Plant and Soil*, **2021**, 467, 67	4.2	0

18	Coupled modelling of hydrological processes and grassland production in two contrasting climates. *Hydrology and Earth System Sciences*, **2022**, 26, 2277-2299	5.5	0
17	A Calibration Free Radiation Driven Model for Estimating Actual Evapotranspiration of Mountain Grasslands (CLIME-MG). *Journal of Hydrology*, **2022**, 127948	6	0
16	Root Processes Affecting Soil Moisture Patterns in Ecohydrology. *Ecohydrology*, **2019**, 417-433	0.2	
15	Root Processes Affecting the Soil Moisture Patterns in Ecohydrology. *Ecohydrology*, **2018**, 1-17	0.2	
14	Sustainable use of water resources in Europe and the role of integrated modelling of phosphate fluxes. *International Journal of Global Environmental Issues*, **2010**, 10, 172	0.8	
13	Asymptotic solutions for two-site non-equilibrium transport. *Acta Mechanica*, **1998**, 129, 127-132	2.1	
12	Classes of solutions for a nonlinear diffusion PDE. *Journal of Computational and Applied Mathematics*, **2001**, 133, 373-381	2.4	
11	Random Walkers Cellular Automata for Diffusion Processes. *ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik*, **2000**, 80, 367-368	1	
10	Reply to: Unbias the evaluation of soil hysteresis effects on transport, by R. Smith. *Ecological Modelling*, **1996**, 87, 295-296	3	
9	Investigating Soil-Root Interactions with the Numerical Model R-SWMS. *Methods in Molecular Biology*, **2022**, 2395, 259-283	1.4	
8	Response to Comments on A Set of Analytical Benchmarks to Test Numerical Models of Flow and Transport in Soils *Vadose Zone Journal*, **2006**, 5, 128-128	2.7	
7	Joint editorial: Invigorating hydrological research through journal publications. *Proceedings of the International Association of Hydrological Sciences*,380, 3-8		
6	Analysis of the Transport of Hydrophobic Organic Xenobiotics in the Presence of Dissolved Organic Carbon Using Soil Column Experiments449-470		
5	3-D Electromagnetic Modeling Explains Apparent-Velocity Increase in Crosshole GPR Data-Borehole Fluid Effect Correction Method Enables to Incorporating High-Angle Traveltime Data. *IEEE Transactions on Geoscience and Remote Sensing*, **2021**, 1-10	8.1	
4	Invigorating Hydrological Research through Journal Publications. *Journal of Hydrometeorology*, **2018**, 19, 1713-1719	3.7	
3	Joint Editorial: Invigorating Hydrological Research through Journal Publications. *Vadose Zone Journal*, **2018**, 17, 180001ed	2.7	
2	The Importance of Subsurface Processes in Land Surface Modeling over a Temperate Region: An Analysis with SMAP, Cosmic Ray Neutron Sensing and Triple Collocation Analysis. *Remote Sensing*, **2021**, 13, 3068	5	
1	One decade (2011–2020) of European agricultural water stress monitoring by MSG-SEVIRI: workflow implementation on the Virtual Earth Laboratory (VLab) platform. *International Journal of Digital Earth*, **2022**, 15, 730-747	3.9	