Andreas Colliander

List of Publications by Year
in descending order

125 papers	5,215 citations	101543 36 h-index	88630 70 g-index
137 all docs	137 docs citations	137 times ranked	3069 citing authors

#	Article	IF	Citations
1	The Impact of In Situ Probe Orientation on SMAP Validation Statistics. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	3.1	1
2	Passive and Active Multiple Scattering of Forests Using Radiative Transfer Theory With an Iterative Approach and Cyclical Corrections. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-16.	6.3	2
3	Multifrequency Full-Wave Simulations of Vegetation Using a Hybrid Method. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 275-285.	4.6	10
4	A Semiempirical Modeling of Soil Moisture, Vegetation, and Surface Roughness Impact on CYGNSS Reflectometry Data. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-17.	6.3	41
5	Regularized Dual-Channel Algorithm for the Retrieval of Soil Moisture and Vegetation Optical Depth From SMAP Measurements. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2022, 15, 102-114.	4.9	13
6	A Novel Approach to Map the Intensity of Surface Melting on the Antarctica Ice Sheet Using SMAP L-Band Microwave Radiometry. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2022, 15, 1724-1743.	4.9	8
7	Validation of Soil Moisture Data Products From the NASA SMAP Mission. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2022, 15, 364-392.	4.9	62
8	A new SMAP soil moisture and vegetation optical depth product (SMAP-IB): Algorithm, assessment and inter-comparison. Remote Sensing of Environment, 2022, 271, 112921.	11.0	46
9	Ice Sheet Surface and Subsurface Melt Water Discrimination Using Multiâ€Frequency Microwave Radiometry. Geophysical Research Letters, 2022, 49, .	4.0	5
10	Satellite Retrievals of Probabilistic Freeze-Thaw Conditions From SMAP and AMSR Brightness Temperatures. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-11.	6.3	2
11	Assessing the Spatiotemporal Variability of SMAP Soil Moisture Accuracy in a Deciduous Forest Region. Remote Sensing, 2022, 14, 3329.	4.0	8
12	Crop-CASMA: A web geoprocessing and map service based architecture and implementation for serving soil moisture and crop vegetation condition data over U.S. Cropland. International Journal of Applied Earth Observation and Geoinformation, 2022, 112, 102902.	1.9	10
13	Wave Propagation in Vegetation Field Using a Hybrid Method. IEEE Transactions on Antennas and Propagation, 2021, 69, 6752-6761.	5.1	21
14	Validation of SMAP L2 passive-only soil moisture products using upscaled in situ measurements collected in Twente, the Netherlands. Hydrology and Earth System Sciences, 2021, 25, 473-495.	4.9	10
15	Accurate Gain Measurement Technique for Limited Antenna Separations. IEEE Transactions on Antennas and Propagation, 2021, 69, 6772-6782.	5.1	7
16	Microwave Radiometry at Frequencies From 500 to 1400 MHz: An Emerging Technology for Earth Observations. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 4894-4914.	4.9	16
17	L-band vegetation optical depth as an indicator of plant water potential in a temperate deciduous forest stand. Biogeosciences, 2021, 18, 739-753.	3.3	31
18	Soil moisture retrieval over a site of intensive agricultural production using airborne radiometer data. International Journal of Applied Earth Observation and Geoinformation, 2021, 97, 102287.	2.8	3

#	Article	IF	Citations
19	Impact of vegetation water content information on soil moisture retrievals in agricultural regions: An analysis based on the SMAPVEX16-MicroWEX dataset. Remote Sensing of Environment, 2021, 265, 112623.	11.0	9
20	Monitoring ECO-Hydrological Spring Onset Over Alaska and Northern Canada with Complementary Satellite Remote Sensing Data. , 2021, , .		0
21	Crop-CASMA - A Web GIS Tool for Cropland Soil Moisture Monitoring and Assessment Based on SMAP Data. , 2021, , .		4
22	Multi-Frequency NMM3D Simulations of Wave Propagation in Vegetation for Remote Sensing of Soil Moisture. , 2021, , .		1
23	SMAP Validation Experiment 2019â€“2022 (SMAPVEX19-22): Detection of Soil Moisture Under Temperate Forest Canopy. , 2021, , .		3
24	Evaluation of Surface Melt on the Greenland Ice Sheet Using SMAP L-Band Microwave Radiometry. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 11439-11449.	4.9	11
25	Validation of SMAP Soil Moisture at Terrestrial National Ecological Observatory Network (NEON) Sites Show Potential for Soil Moisture Retrieval in Forested Areas. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 10903-10918.	4.9	21
26	An inverse dielectric mixing model at 50â€‰MHz that considers soil organic carbon. Hydrology and Earth System Sciences, 2021, 25, 6407-6420.	4.9	3
27	Parameterization of Vegetation Scattering Albedo in the Tau-Omega Model for Soil Moisture Retrieval on Croplands. Remote Sensing, 2020, 12, 2939.	4.0	4
28	Monitoring Freeze-Thaw State by Means of GNSS Reflectometry: An Analysis of TechDemoSat-1 Data. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2020, 13, 2996-3005.	4.9	32
29	Evaluation of SMAP Core Validation Site Representativeness Errors Using Dense Networks of In Situ Sensors and Random Forests. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2020, 13, 6457-6472.	4.9	6
30	MULTIPLE SCATTERING OF WAVES BY COMPLEX OBJECTS USING HYBRID METHOD OF T-MATRIX AND FOLDY-LAX EQUATIONS USING VECTOR SPHERICAL WAVES AND VECTOR SPHEROIDAL WAVES. Progress in Electromagnetics Research, 2020, 168, 87-111.	4.4	5
31	SMAP Detects Soil Moisture Under Temperate Forest Canopies. Geophysical Research Letters, 2020, 47, e2020GL089697.	4.0	34
32	Reconciling Flagging Strategies for Multi-Sensor Satellite Soil Moisture Climate Data Records. Remote Sensing, 2020, 12, 3439.	4.0	6
33	Effect of Rainfall Events on SMAP Radiometer-Based Soil Moisture Accuracy Using Core Validation Sites. Journal of Hydrometeorology, 2020, 21, 255-264.	1.9	9
34	Multiscale Surface Roughness for Improved Soil Moisture Estimation. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 5264-5276.	6.3	15
35	Improved SMAP Dual-Channel Algorithm for the Retrieval of Soil Moisture. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 3894-3905.	6.3	62
36	Satellite detection of varying seasonal water supply restrictions on grassland productivity in the Missouri basin, USA. Remote Sensing of Environment, 2020, 239, 111623.	11.0	4

#	Article	IF	Citations
37	Estimating Global Evapotranspiration Using Smap Surface and Root-Zone Moisture Content. , 2020, , .		0
38	Potential of GNSS Reflectometry for Freeze-Thaw Monitoring: a Study of Techdemosat-1 Data. , 2020, , .		0
39	Full-Wave Simulations of Scattering in Vegetation for Microwave Remote Sensing of Soil Moisture. , 2020, , .		0
40	SMAP Validation Experiment 2019â€“2021 (SMAPVEX19-21): Detection of Soil Moisture under Forest Canopy. , 2020, , .		1
41	Full Wave Simulations of Vegetation/Trees Using 3D Vector Cylindrical Wave Expansions In Foldy-Lax Multiple Scattering Equations. , 2019, , .		0
42	Uncertainty of Reference Pixel Soil Moisture Averages Sampled at SMAP Core Validation Sites. Journal of Hydrometeorology, 2019, 20, 1553-1569.	1.9	24
43	Validation of SMAP Soil Moisture Products Using Ground-Based Observations for the Paddy Dominated Tropical Region of India. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 8479-8491.	6.3	25
44	Global Assessment of the SMAP Freeze/Thaw Data Record and Regional Applications for Detecting Spring Onset and Frost Events. Remote Sensing, 2019, 11, 1317.	4.0	26
45	Version 4 of the SMAP Levelâ€4 Soil Moisture Algorithm and Data Product. Journal of Advances in Modeling Earth Systems, 2019, 11, 3106-3130.	3.8	104
46	Consistency Between NASS Surveyed Soil Moisture Conditions and SMAP Soil Moisture Observations. Water Resources Research, 2019, 55, 7682-7693.	4.2	10
47	The SMAP and Copernicus Sentinel 1A/B microwave active-passive high resolution surface soil moisture product. Remote Sensing of Environment, 2019, 233, 111380.	11.0	175
48	Passive/active microwave soil moisture change disaggregation using SMAPVEX12 data. Journal of Hydrology, 2019, 574, 1085-1098.	5.4	29
49	Comparison of high-resolution airborne soil moisture retrievals to SMAP soil moisture during the SMAP validation experiment 2016 (SMAPVEX16). Remote Sensing of Environment, 2019, 227, 137-150.	11.0	45
50	Assessment of Soil Moisture SMAP Retrievals and ELBARA-III Measurements in a Tibetan Meadow Ecosystem. IEEE Geoscience and Remote Sensing Letters, 2019, 16, 1407-1411.	3.1	13
51	Soil Moisture Remote Sensing across Scales. Remote Sensing, 2019, 11, 190.	4.0	15
52	The Texas Soil Observation Network:A Comprehensive Soil Moisture Dataset for Remote Sensing and Land Surface Model Validation. Vadose Zone Journal, 2019, 18, 1-20.	2.2	28
53	Propagation of Waves in Randomly Distributed Cylinders Using Three-Dimensional Vector Cylindrical Wave Expansions in Foldyâ€“Lax Equations. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2019, 4, 214-226.	2.2	22
54	Remote Sensing of Soil Moisture for Vegetation/Forests with Large VWC Using Nmm3d Full Wave Simulations. , 2019, , .		0

#	Article	IF	Citations
55	Estimating vegetation water content during the Soil Moisture Active Passive Validation Experiment 2016. Journal of Applied Remote Sensing, 2019, 13, 1.	1.3	19
56	Capturing agricultural soil freeze/thaw state through remote sensing and ground observations: A soil freeze/thaw validation campaign. Remote Sensing of Environment, 2018, 211, 59-70.	11.0	36
57	An assessment of the differences between spatial resolution and grid size for the SMAP enhanced soil moisture product over homogeneous sites. Remote Sensing of Environment, 2018, 207, 65-70.	11.0	46
58	The SMAP mission combined active-passive soil moisture product at 9â€¯km and 3â€¯km spatial resolutions. Remote Sensing of Environment, 2018, 211, 204-217.	11.0	59
59	Assessment of the SMAP Soil Emission Model and Soil Moisture Retrieval Algorithms for a Tibetan Desert Ecosystem. IEEE Transactions on Geoscience and Remote Sensing, 2018, 56, 3786-3799.	6.3	27
60	Impact of surface roughness, vegetation opacity and soil permittivity on L-band microwave emission and soil moisture retrieval in the third pole environment. Remote Sensing of Environment, 2018, 209, 633-647.	11.0	40
61	Development and assessment of the SMAP enhanced passive soil moisture product. Remote Sensing of Environment, 2018, 204, 931-941.	11.0	297
62	Estimating surface soil moisture from SMAP observations using a Neural Network technique. Remote Sensing of Environment, 2018, 204, 43-59.	11.0	85
63	Global Freeze/Thaw Product from L-Band Radiometer Data. , 2018, , .		0
64	Polarization Decomposition and Temperature Bias Resolution for Smap Passive Soil Moisture Retrieval Using Time Series Brightness Temperature Observations. , 2018, , .		0
65	Integration of SMAP and SMOS Observations. , 2018, , .		0
66	NMM3D Full Wave Simulations of Vegetation and Forest Effects in Microwave Remote Sensing. , 2018, , .		3
67	Soil Moisture Retrieval Using full Wave Simulations of 3-D Maxwell Equations for Compensating Vegetation Effects. , 2018, , .		4
68	Assessing SMAP Soil Moisture Scaling and Retrieval in the Carman (Canada) Study Site. Vadose Zone Journal, 2018, 17, 1-14.	2.2	59
69	SMAP soil moisture improves global evapotranspiration. Remote Sensing of Environment, 2018, 219, 1-14.	11.0	131
70	Global-scale evaluation of SMAP, SMOS and ASCAT soil moisture products using triple collocation. Remote Sensing of Environment, 2018, 214, 1-13.	11.0	157
71	Estimating Vegetation Water Content and Soil Surface Roughness Using Physical Models of L-Band Radar Scattering for Soil Moisture Retrieval. Remote Sensing, 2018, 10, 556.	4.0	17
72	Estimating time-dependent vegetation biases in the SMAP soil moisture product. Hydrology and Earth System Sciences, 2018, 22, 4473-4489.	4.9	33

#	Article	IF	Citations
73	Application of Triple Collocation in Ground-Based Validation of Soil Moisture Active/Passive (SMAP) Level 2 Data Products. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2017, 10, 489-502.	4.9	115
74	Validation of SMAP surface soil moisture products with core validation sites. Remote Sensing of Environment, 2017, 191, 215-231.	11.0	503
75	A Time-Series Approach to Estimating Soil Moisture From Vegetated Surfaces Using L-Band Radar Backscatter. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 3186-3193.	6.3	60
76	A Comparative Study of the SMAP Passive Soil Moisture Product With Existing Satellite-Based Soil Moisture Products. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 2959-2971.	6.3	108
77	Surface Soil Moisture Retrieval Using the L-Band Synthetic Aperture Radar Onboard the Soil Moisture Activeâ€"Passive Satellite and Evaluation at Core Validation Sites. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 1897-1914.	6.3	64
78	Validation of the Soil Moisture Active Passive (SMAP) satellite soil moisture retrieval in an Arctic tundra environment. Geophysical Research Letters, 2017, 44, 4152-4158.	4.0	15
79	Satellite-observed changes in vegetation sensitivities to surface soil moisture and total water storage variations since the 2011 Texas drought. Environmental Research Letters, 2017, 12, 054006.	5.2	30
80	Validation and scaling of soil moisture in a semi-arid environment: SMAP validation experiment 2015 (SMAPVEX15). Remote Sensing of Environment, 2017, 196, 101-112.	11.0	65
81	Propagation and Scattering by a Layer of Randomly Distributed Dielectric Cylinders Using Monte Carlo Simulations of 3D Maxwell Equations With Applications in Microwave Interactions With Vegetation. IEEE Access, 2017, 5, 11985-12003.	4.2	43
82	Retrieving landscape freeze/thaw state from Soil Moisture Active Passive (SMAP) radar and radiometer measurements. Remote Sensing of Environment, 2017, 194, 48-62.	11.0	113
83	Validation of SMAP soil moisture for the SMAPVEX15 field campaign using a hyperâ€resolution model. Water Resources Research, 2017, 53, 3013-3028.	4.2	47
84	Assessment of the SMAP Level-4 Surface and Root-Zone Soil Moisture Product Using In Situ Measurements. Journal of Hydrometeorology, 2017, 18, 2621-2645.	1.9	196
85	The SMAP Level 4 Carbon Product for Monitoring Ecosystem Landâ€"Atmosphere CO₂ Exchange. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 6517-6532.	6.3	69
86	Spatial Downscaling of SMAP Soil Moisture Using MODIS Land Surface Temperature and NDVI During SMAPVEX15. IEEE Geoscience and Remote Sensing Letters, 2017, 14, 2107-2111.	3.1	73
87	Hybrid method combining generalized T matrix of single objects and Foldy-Lax equations in NMM3D microwave scattering in vegetation. , 2017, , .		2
88	MODELLING AND VALIDATION OF COMBINED ACTIVE AND PASSIVE MICROWAVE REMOTE SENSING OF AGRICULTURAL VEGETATION AT L-BAND. Progress in Electromagnetics Research B, 2017, 78, 91-124.	1.0	9
89	Data Assimilation to Extract Soil Moisture Information from SMAP Observations. Remote Sensing, 2017, 9, 1179.	4.0	25
90	SMAP soil moisture drying more rapid than observed in situ following rainfall events. Geophysical Research Letters, 2016, 43, 8068-8075.	4.0	84

#	Article	IF	Citations
91	Assessment of the SMAP Passive Soil Moisture Product. IEEE Transactions on Geoscience and Remote Sensing, 2016, 54, 4994-5007.	6.3	460
92	The Microwave Radiometer Working Group [Technical Committees]. IEEE Geoscience and Remote Sensing Magazine, 2016, 4, 69-72.	9.6	0
93	Activeâ€"Passive Disaggregation of Brightness Temperatures During the SMAPVEX12 Campaign. IEEE Transactions on Geoscience and Remote Sensing, 2016, 54, 6859-6867.	6.3	6
94	Retrieving soil moisture for non-forested areas using PALS radiometer measurements in SMAPVEX12 field campaign. Remote Sensing of Environment, 2016, 184, 86-100.	11.0	25
95	L-Band Radio-Frequency Interference Observations During the SMAP Validation Experiment 2012. IEEE Transactions on Geoscience and Remote Sensing, 2016, 54, 1323-1335.	6.3	14
96	Freeze/Thaw Detection and Validation Using Aquariusâ€™ L-Band Backscattering Data. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2016, 9, 1370-1381.	4.9	20
97	Activeâ€"Passive Soil Moisture Retrievals During the SMAP Validation Experiment 2012. IEEE Geoscience and Remote Sensing Letters, 2016, 13, 475-479.	3.1	12
98	Assessing Long-Term Stability of SMOS Zero-Baseline Antenna Temperature Using the Aquarius Antenna Temperature Simulator. IEEE Geoscience and Remote Sensing Letters, 2015, 12, 1680-1684.	3.1	3
99	Comparison of Airborne Passive and Active L-Band System (PALS) Brightness Temperature Measurements to SMOS Observations During the SMAP Validation Experiment 2012 (SMAPVEX12). IEEE Geoscience and Remote Sensing Letters, 2015, 12, 801-805.	3.1	28
100	Estimating Effective Roughness Parameters of the L-MEB Model for Soil Moisture Retrieval Using Passive Microwave Observations From SMAPVEX12. IEEE Transactions on Geoscience and Remote Sensing, 2015, 53, 4091-4103.	6.3	19
101	Soil organic carbon as a factor in passive microwave retrievals of soil water content over agricultural croplands. Journal of Hydrology, 2015, 528, 643-651.	5.4	14
102	The Soil Moisture Active Passive Validation Experiment 2012 (SMAPVEX12): Prelaunch Calibration and Validation of the SMAP Soil Moisture Algorithms. IEEE Transactions on Geoscience and Remote Sensing, 2015, 53, 2784-2801.	6.3	206
103	Intercomparisons of Brightness Temperature Observations Over Land From AMSR-E and WindSat. IEEE Transactions on Geoscience and Remote Sensing, 2014, 52, 452-464.	6.3	13
104	Tests of the SMAP Combined Radar and Radiometer Algorithm Using Airborne Field Campaign Observations and Simulated Data. IEEE Transactions on Geoscience and Remote Sensing, 2014, 52, 2018-2028.	6.3	144
105	Advances in calibration of the SMOS zero-baseline radiometers. , 2014, , .		0
106	Canadian Experiment for Soil Moisture in 2010 (CanEx-SM10): Overview and Preliminary Results. IEEE Transactions on Geoscience and Remote Sensing, 2013, 51, 347-363.	6.3	71
107	Normalized Residual Scattering Index Applied to Aquarius L-Band Measurements. IEEE Geoscience and Remote Sensing Letters, 2013, 10, 890-894.	3.1	6
108	Long term analysis of PALS soil moisture campaign measurements for global soil moisture algorithm development. Remote Sensing of Environment, 2012, 121, 309-322.	11.0	41

#	Article	IF	Citations
109	Radiometric Performance of the SMOS Reference Radiometersâ€"Assessment After One Year of Operation. IEEE Transactions on Geoscience and Remote Sensing, 2012, 50, 1367-1383.	6.3	23
110	Analysis of coincident L-band radiometer and radar measurements with respect to soil moisture and vegetation conditions. European Journal of Remote Sensing, 2012, 45, 111-120.	3.5	10
111	Application of QuikSCAT Backscatter to SMAP Validation Planning: Freeze/Thaw State Over ALECTRA Sites in Alaska From 2000 to 2007. IEEE Transactions on Geoscience and Remote Sensing, 2012, 50, 461-468.	6.3	28
112	Modeling and Analysis of Polarimetric Synthetic Aperture Interferometric Radiometers Using Noise Waves. IEEE Transactions on Geoscience and Remote Sensing, 2010, 48, 3560-3570.	6.3	6
113	Prelaunch Estimation of Radiometric Resolution and Stability of SMOS Zero-Baseline Radiometer in Anechoic Chamber. IEEE Transactions on Geoscience and Remote Sensing, 2010, 48, 1389-1397.	6.3	7
114	Correlation Denormalization in Interferometric or Polarimetric Radiometers: A Unified Approach. IEEE Transactions on Geoscience and Remote Sensing, 2009, 47, 561-568.	6.3	6
115	Error Propagation in Calibration Networks of Synthetic Aperture Radiometers. IEEE Transactions on Geoscience and Remote Sensing, 2009, 47, 3140-3150.	6.3	3
116	SMOS Calibration. IEEE Transactions on Geoscience and Remote Sensing, 2008, 46, 646-658.	6.3	104
117	Ground calibration of SMOS: NIR and CAS. , 2007, , .		4
118	Sensitivity of Airborne 36.5-GHz Polarimetric Radiometer's Wind-Speed Measurement to Incidence Angle. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 2122-2129.	6.3	1
119	SMOS Calibration Subsystem. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 3691-3700.	6.3	31
120	Electromagnetic Scattering From Rough Surface Using Single Integral Equation and Adaptive Integral Method. IEEE Transactions on Antennas and Propagation, 2007, 55, 3639-3646.	5.1	28
121	Development and Calibration of SMOS Reference Radiometer. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 1967-1977.	6.3	42
122	Calibration of End-to-End Phase Imbalance of Polarimetric Radiometers. IEEE Transactions on Geoscience and Remote Sensing, 2006, 44, 2635-2641.	6.3	7
123	MIRAS end-to-end calibration: application to SMOS L1 processor. IEEE Transactions on Geoscience and Remote Sensing, 2005, 43, 1126-1134.	6.3	91
124	MIRAS reference radiometer: a fully polarimetric noise injection radiometer. IEEE Transactions on Geoscience and Remote Sensing, 2005, 43, 1135-1143.	6.3	34
125	Analysis of correlation and total power radiometer front-ends using noise waves. IEEE Transactions on Geoscience and Remote Sensing, 2005, 43, 2452-2459.	6.3	28