

# Juha Lemmetyinen

## List of Publications by Year in descending order

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144  
papers

3,150  
citations

159585

30  
h-index

168389

53  
g-index

158  
all docs

158  
docs citations

158  
times ranked

2594  
citing authors

#	ARTICLE	IF	CITATIONS
1	X-Ray Tomography-Based Microstructure Representation in the Snow Microwave Radiative Transfer Model. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-15.	6.3	6
2	Exploiting the ANN Potential in Estimating Snow Depth and Snow Water Equivalent From the Airborne SnowSAR Data at X- and Ku-Bands. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-16.	6.3	13
3	Effects of Arctic Wetland Dynamics on Tower-Based GNSS Reflectometry Observations. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-17.	6.3	3
4	A lake ice phenology dataset for the Northern Hemisphere based on passive microwave remote sensing. Big Earth Data, 2022, 6, 401-419.	4.4	8
5	Attenuation of Radar Signal by a Boreal Forest Canopy in Winter. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	3.1	3
6	Sentinel-1 based soil freeze/thaw estimation in boreal forest environments. Remote Sensing of Environment, 2021, 254, 112267.	11.0	10
7	Impact of dynamic snow density on GlobSnow snow water equivalent retrieval accuracy. Cryosphere, 2021, 15, 2969-2981.	3.9	22
8	GlobSnow v3.0 Northern Hemisphere snow water equivalent dataset. Scientific Data, 2021, 8, 163.	5.3	58
9	The influence of tree transmissivity variations in winter on satellite snow parameter observations. International Journal of Digital Earth, 2021, 14, 1337-1353.	3.9	3
10	Inter-annual variation in lake ice composition in the European Arctic: observations based on high-resolution thermistor strings. Earth System Science Data, 2021, 13, 3967-3978.	9.9	6
11	Atmospheric Correction to Passive Microwave Brightness Temperature in Snow Cover Mapping Over China. IEEE Transactions on Geoscience and Remote Sensing, 2021, 59, 6482-6495.	6.3	6
12	Temperature effects on L-band vegetation optical depth of a boreal forest. Remote Sensing of Environment, 2021, 263, 112542.	11.0	12
13	Estimation of Hemispheric Snow Mass Evolution Based on Microwave Radiometry. , 2021, , .		0
14	Development of Dynamic Snow Density Methodology for GlobSnow SWE Retrieval. , 2021, , .		0
15	Solving Challenges of Assimilating Microwave Remote Sensing Signatures With a Physical Model to Estimate Snow Water Equivalent. Water Resources Research, 2021, 57, e2021WR030119.	4.2	7
16	Modeling Climate Sensitive Infectious Diseases in the Arctic. Springer Polar Sciences, 2021, , 93-111.	0.1	0
17	SodSAR: A Tower-Based 10 GHz SAR System for Snow, Soil and Vegetation Studies. Sensors, 2020, 20, 6702.	3.8	6
18	Validation of remotely sensed estimates of snow water equivalent using multiple reference datasets from the middle and high latitudes of China. Journal of Hydrology, 2020, 590, 125499.	5.4	21

#	ARTICLE	IF	CITATIONS
19	Comparison to Changes of Lake Ice Phenology and Air Temperature over Northern Europe, Tibetan Plateau and Mongolian Plateau. IOP Conference Series: Earth and Environmental Science, 2020, 502, 012033.	0.3	1
20	Simulating the Influence of Temperature on Microwave Transmissivity of Trees During Winter Observed by Spaceborne Microwave Radiometry. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2020, 13, 4816-4824.	4.9	3
21	Patterns and trends of Northern Hemisphere snow mass from 1980 to 2018. Nature, 2020, 581, 294-298.	27.8	203
22	Snow depth estimation and historical data reconstruction over China based on a random forest machine learning approach. Cryosphere, 2020, 14, 1763-1778.	3.9	30
23	Assessing the Performances of FY-3D/MWRI and DMSP SSMIS in GlobSnow-2 Assimilation System for SWE Estimation. , 2020, , .		1
24	Foreword to the Special Issue on MicroRad 2018. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2019, 12, 1631-1632.	4.9	0
25	MODIS-based Daily Lake Ice Extent and Coverage dataset for Tibetan Plateau. Big Earth Data, 2019, 3, 170-185.	4.4	27
26	Derivation and Evaluation of a New Extinction Coefficient for Use With the n-HUT Snow Emission Model. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 7406-7417.	6.3	3
27	The Influence of Thermal Properties and Canopy- Intercepted Snow on Passive Microwave Transmissivity of a Scots Pine. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 5424-5433.	6.3	18
28	Atmospheric correction of passive microwave brightness temperature on the estimation of snow depth. , 2019, , .		1
29	Comparative Analysis to the Lake Ice Phenology Changes of Mongolian Plateau, Tibetan Plateau and Northern Europe through Passive Microwave. , 2019, , .		1
30	Development of SWE Retrieval Methods in the ESA Snow CCI Project And Long Term Trends in Seasonal Snow Mass. , 2019, , .		0
31	A Modeling-Based Approach for Soil Frost Detection in the Northern Boreal Forest Region With C-Band SAR. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 1069-1083.	6.3	14
32	Wet Snow Depth from Tandem-X Single-Pass Insar Dem Differencing. , 2018, , .		6
33	Season -Length Observations of Active and Passive Microwave Signatures of Snow Cover in a Boreal Forest Environment. , 2018, , .		2
34	Soil Permittivity and Soil Frost Retrievals Using a Synergistic Method for Active and Passive Microwave Instruments. , 2018, , .		0
35	Spatially Distributed Evaluation of ESA CCI Soil Moisture Products in a Northern Boreal Forest Environment. Geosciences (Switzerland), 2018, 8, 51.	2.2	16
36	Smos Retrievals of Soil Freezing and Thawing and its Applications. , 2018, , .		2

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37	Assessment of Seasonal snow Cover Mass in Northern Hemisphere During the Satellite-ERA. , 2018, , .		1
38	Modelling the L-Band Snow-Covered Surface Emission in a Winter Canadian Prairie Environment. Remote Sensing, 2018, 10, 1451.	4.0	8
39	The influence of snow microstructure on dual-frequency radar measurements in a tundra environment. Remote Sensing of Environment, 2018, 215, 242-254.	11.0	37
40	Retrieval of Effective Correlation Length and Snow Water Equivalent from Radar and Passive Microwave Measurements. Remote Sensing, 2018, 10, 170.	4.0	42
41	Forward and Inverse Radar Modeling of Terrestrial Snow Using SnowSAR Data. IEEE Transactions on Geoscience and Remote Sensing, 2018, 56, 7122-7132.	6.3	30
42	Response of L-Band brightness temperatures to freeze/thaw and snow dynamics in a prairie environment from ground-based radiometer measurements. Remote Sensing of Environment, 2017, 191, 67-80.	11.0	50
43	Snow Density and Ground Permittivity Retrieved From L-Band Radiometry: A Retrieval Sensitivity Analysis. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2017, 10, 3148-3161.	4.9	16
44	Early snowmelt significantly enhances boreal springtime carbon uptake. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11081-11086.	7.1	84
45	Coupling SNOWPACK-modeled grain size parameters with the HUT snow emission model. Remote Sensing of Environment, 2017, 194, 33-47.	11.0	15
46	New Snow Water Equivalent Processing System With Improved Resolution Over Europe and its Applications in Hydrology. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2017, 10, 428-436.	4.9	17
47	Estimation of Microwave Atmospheric Transmittance Over China. IEEE Geoscience and Remote Sensing Letters, 2017, 14, 2210-2214.	3.1	11
48	Long term changes in Northern hemisphere snow cover from SWE timeseries constrained with SE data. , 2017, , .		0
49	Spatial Variability of L-Band Brightness Temperature during Freeze/Thaw Events over a Prairie Environment. Remote Sensing, 2017, 9, 894.	4.0	13
50	Future mission concepts for measuring snow mass. , 2017, , .		0
51	Validation of physical model and radar retrieval algorithm of snow water equivalent using SnowSAR data. , 2017, , .		0
52	Microstructure representation of snow in coupled snowpack and microwave emission models. Cryosphere, 2017, 11, 229-246.	3.9	28
53	Nordic Snow Radar Experiment. Geoscientific Instrumentation, Methods and Data Systems, 2016, 5, 403-415.	1.6	37
54	Anisotropy of seasonal snow measured by polarimetric phase differences in radar time series. Cryosphere, 2016, 10, 1771-1797.	3.9	43

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55	Spatial and temporal variation of bulk snow properties in northern boreal and tundra environments based on extensive field measurements. <i>Geoscientific Instrumentation, Methods and Data Systems</i> , 2016, 5, 347-363.	1.6	9
56	Estimating Snow Water Equivalent with Backscattering at X and Ku Band Based on Absorption Loss. <i>Remote Sensing</i> , 2016, 8, 505.	4.0	37
57	Arctic Snow Microstructure Experiment for the development of snow emission modelling. <i>Geoscientific Instrumentation, Methods and Data Systems</i> , 2016, 5, 85-94.	1.6	4
58	The Sodankylä in situ soil moisture observation network: an example application of ESA'sCCI soil moisture product evaluation. <i>Geoscientific Instrumentation, Methods and Data Systems</i> , 2016, 5, 95-108.	1.6	28
59	A 7-year dataset for driving and evaluating snow models at an Arctic site (Sodankylä, Finland). <i>Geoscientific Instrumentation, Methods and Data Systems</i> , 2016, 5, 219-227.	1.6	32
60	Active Microwave Scattering Signature of Snowpack's Continuous Multiyear SnowScat Observation Experiments. <i>IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing</i> , 2016, 9, 3849-3869.	4.9	8
61	Analysis of L-Band brightness temperatures response to freeze/thaw in two prairie environments from surface-based radiometer measurements. , 2016, , .		0
62	Assessing global satellite-based snow water equivalent datasets in ESA SnowPEX project. , 2016, , .		2
63	Hydrological applications of super resolution SWE processing system over Europe. , 2016, , .		0
64	SMOS prototype algorithm for detecting autumn soil freezing. <i>Remote Sensing of Environment</i> , 2016, 180, 346-360.	11.0	109
65	Implications of boreal forest stand characteristics for X-band SAR flood mapping accuracy. <i>Remote Sensing of Environment</i> , 2016, 186, 47-63.	11.0	28
66	Centi- and millimeter-wave atmospheric transmittance estimation and analysis over China. , 2016, , .		0
67	Diurnal variation of brightness temperature of terrestrial snow during snowmelt. , 2016, , .		0
68	Snow on lake ice: Overview of a multiyear airborne radiometer data collection program and related modeling efforts. , 2016, , .		1
69	Consideration of variable atmospheric transmissivity in passive microwave snowpack retrievals over Tibetan Plateau. , 2016, , .		0
70	Microwave brightness temperature of snow: Observations and simulations. , 2016, , .		1
71	Retrieval of snow parameters from L-band observations - application for SMOS and SMAP. , 2016, , .		4
72	Observations and Simulation of Multifrequency SAR Data Over a Snow-Covered Boreal Forest. <i>IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing</i> , 2016, 9, 1216-1228.	4.9	23

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73	Differences Between the HUT Snow Emission Model and MEMLS and Their Effects on Brightness Temperature Simulation. IEEE Transactions on Geoscience and Remote Sensing, 2016, 54, 2001-2019.	6.3	28
74	Snow density and ground permittivity retrieved from L-band radiometry: Application to experimental data. Remote Sensing of Environment, 2016, 180, 377-391.	11.0	60
75	Multifrequency microwave radiometry of snow on lake ice: Observations and simulations. , 2015, , .		6
76	Comparison of traditional and optical grain-size field measurements with SNOWPACK simulations in a taiga snowpack. Journal of Glaciology, 2015, 61, 151-162.	2.2	33
77	Potential of L-band passive microwave radiometry for snow parameter retrieval. , 2015, , .		0
78	MEMLS&a: Microwave Emission Model of Layered Snowpacks adapted to include backscattering. Geoscientific Model Development, 2015, 8, 2611-2626.	3.6	52
79	On the estimate of the microwave shadowing effect on sparse boreal forests. , 2015, , .		0
80	The Effect of Boreal Forest Canopy in Satellite Snow Mapping&A Multisensor Analysis. IEEE Transactions on Geoscience and Remote Sensing, 2015, 53, 6593-6607.	6.3	30
81	Estimation of vegetation and soil backscattering for the retrieval of SWE in sparse forests. , 2015, , .		1
82	Modeling Both Active and Passive Microwave Remote Sensing of Snow Using Dense Media Radiative Transfer (DMRT) Theory With Multiple Scattering and Backscattering Enhancement. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2015, 8, 4418-4430.	4.9	53
83	Evaluation of snow products over the Tibetan Plateau. Hydrological Processes, 2015, 29, 3247-3260.	2.6	84
84	Snow Density and Ground Permittivity Retrieved from L-Band Radiometry: A Synthetic Analysis. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2015, 8, 3833-3845.	4.9	59
85	Snow Water Equivalent of Dry Snow Measured by Differential Interferometry. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2015, 8, 3773-3790.	4.9	86
86	Simulating seasonally and spatially varying snow cover brightness temperature using HUT snow emission model and retrieval of a microwave effective grain size. Remote Sensing of Environment, 2015, 156, 71-95.	11.0	37
87	Snow stratigraphic heterogeneity within ground&based passive microwave radiometer footprints: Implications for emission modeling. Journal of Geophysical Research F: Earth Surface, 2014, 119, 550-565.	2.8	24
88	Physical properties of Arctic versus subarctic snow: Implications for high latitude passive microwave snow water equivalent retrievals. Journal of Geophysical Research D: Atmospheres, 2014, 119, 7254-7270.	3.3	39
89	Monitoring snow parameters in boreal forest using multi-frequency SAR data. , 2014, , .		1
90	Bicontinuous/DMRT model applied to active and passive microwave remote sensing of terrestrial snow. , 2014, , .		2

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91	Comparasion on snow depth algorithms over China using AMSR-E passive microwave remote sensing. , 2014, , .		0
92	Refinement of the X and Ku band dual-polarization scatterometer snow water equivalent retrieval algorithm. , 2014, , .		3
93	Comparison of SSMIS, AMSR-E and MWRI brightness temperature data. , 2014, , .		1
94	Dense Media Radiative Transfer Applied to SnowScat and SnowSAR. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2014, 7, 3811-3825.	4.9	44
95	Detection of soil freezing from L-band passive microwave observations. Remote Sensing of Environment, 2014, 147, 206-218.	11.0	120
96	Model for microwave emission of a snow-covered ground with focus on L band. Remote Sensing of Environment, 2014, 154, 180-191.	11.0	62
97	Observation and Modeling of the Microwave Brightness Temperature of Snow-Covered Frozen Lakes and Wetlands. IEEE Transactions on Geoscience and Remote Sensing, 2014, 52, 3275-3288.	6.3	14
98	Estimation of ice thickness on large northern lakes from AMSR-E brightness temperature measurements. Remote Sensing of Environment, 2014, 150, 1-19.	11.0	31
99	Electromagnetic simulation and validation of backscattering from boreal forest in the C-Ku frequency range. , 2013, , .		0
100	L-Band Radiometer Observations of Soil Processes in Boreal and Subarctic Environments. IEEE Transactions on Geoscience and Remote Sensing, 2012, 50, 1483-1497.	6.3	106
101	An emissivity-based land surface temperature retrieval algorithm. , 2012, , .		0
102	Multifrequency microwave radiometer measurements of snow on lake ice. , 2012, , .		4
103	Evaluation of passive microwave brightness temperature simulations and snow water equivalent retrievals through a winter season. Remote Sensing of Environment, 2012, 117, 236-248.	11.0	65
104	Microwave emission signature of snow-covered lake ice. , 2011, , .		3
105	Estimating northern hemisphere snow water equivalent for climate research through assimilation of space-borne radiometer data and ground-based measurements. Remote Sensing of Environment, 2011, 115, 3517-3529.	11.0	481
106	Correcting for the influence of frozen lakes in satellite microwave radiometer observations through application of a microwave emission model. Remote Sensing of Environment, 2011, 115, 3695-3706.	11.0	20
107	Experimental Study on Radiometric Performance of Synthetic Aperture Radiometer HUT-2Dâ€™s Measurements of Natural Targets. IEEE Transactions on Geoscience and Remote Sensing, 2011, 49, 814-826.	6.3	16
108	Evaluation of the HUT modified snow emission model over lake ice using airborne passive microwave measurements. Remote Sensing of Environment, 2011, 115, 233-244.	11.0	19

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109	Detection of a Sea Surface Salinity Gradient Using Data Sets of Airborne Synthetic Aperture Radiometer HUT-2-D and a GNSS-R Instrument. IEEE Transactions on Geoscience and Remote Sensing, 2011, 49, 4561-4571.	6.3	4
110	Investigating hemispherical trends in snow accumulation using GlobSnow snow water equivalent data. , 2011, , .		7
111	Effects of snowpack parameters and layering processes at X- and Ku-band backscatter. , 2011, , .		0
112	SNOWCARBO: Monitoring and assessment of carbon balance related phenomena in Finland and northern Eurasia. , 2011, , .		1
113	Synthetic aperture radiometer measurements of freezing soil. , 2011, , .		0
114	Analysis of active and passive microwave observations from the NoSREx campaign. , 2011, , .		5
115	Analysis of the passive microwave high-frequency signal in the shallow snow retrieval. , 2011, , .		3
116	Implementing hemispherical snow water equivalent product assimilating weather station observations and spaceborne microwave data. , 2011, , .		2
117	Multiple-Layer Adaptation of HUT Snow Emission Model: Comparison With Experimental Data. IEEE Transactions on Geoscience and Remote Sensing, 2010, 48, 2781-2794.	6.3	97
118	Correction to "Multiple-Layer Adaptation of HUT Snow Emission Model: Comparison With Experimental Data" [Jul 10 2781-2794]. IEEE Transactions on Geoscience and Remote Sensing, 2010, 48, 3055-3055.	6.3	4
119	Observed and modelled effects of ice lens formation on passive microwave brightness temperatures over snow covered tundra. Remote Sensing of Environment, 2010, 114, 116-126.	11.0	74
120	Analysis between AMSR-E swath brightness temperature and ground snow depth data in winter time over Tibet Plateau, China. , 2010, , .		3
121	Observing seasonal snow changes in the boreal forest area using active and passive microwave measurements. , 2010, , .		3
122	Combined hemispherical scale SWE and snow clearance monitoring. , 2010, , .		0
123	L-band measurements of boreal soil. , 2010, , .		3
124	Improving hydrological forecasting using multi-source remote sensing data together with in situ measurements. , 2010, , .		0
125	Experimental study on radiometric performance of synthetic aperture radiometer hut-2D &#x2013; Measurements of natural targets. , 2010, , .		0
126	Experimental and modeling studies of microwave remote sensing of seasonal snow. , 2009, , .		0



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127	Soil moisture retrieval from HUT-2D synthetic aperture radiometer data. , 2009, , .		0
128	Experimental validation activities of HUT snow emission model. , 2009, , .		0
129	The atmosphere influence to AMSR-E measurements over snow-covered areas: Simulation and experiments. , 2009, , .		7
130	A Comparison of Airborne Microwave Brightness Temperatures and Snowpack Properties Across the Boreal Forests of Finland and Western Canada. IEEE Transactions on Geoscience and Remote Sensing, 2009, 47, 965-978.	6.3	38
131	Error Propagation in Calibration Networks of Synthetic Aperture Radiometers. IEEE Transactions on Geoscience and Remote Sensing, 2009, 47, 3140-3150.	6.3	3
132	Sea surface salinity retrieval demonstration using datasets of synthetic aperture radiometer HUT-2D. , 2009, , .		1
133	Determination of Snow Emission on Lake Ice from Airborne Passive Microwave Measurements. , 2008, , .		6
134	The AMSR-E Instantaneous Emissivity Estimation and its Correlation, Frequency Dependency Analysis over Different Land Covers. , 2008, , .		4
135	Ground calibration of SMOS: NIR and CAS. , 2007, , .		4
136	Operational snow map production for whole eurasia using microwave radiometer and ground-based observations. , 2007, , .		1
137	Thermal stabilized front-end PCB with active cold calibration load for L-band radiometer. , 2007, , .		1
138	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
139	SMOS Calibration Subsystem. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 3691-3700.	6.3	31
140	SMOS Calibration Subsystem. , 2006, , .		3
141	Airborne ocean wind vector measurement using 36.5 GHz profiling polarimetric radiometer. , 0, , .		2
142	Calibration subsystem for spaceborne interferometric radiometer. , 0, , .		4
143	Spatial Microwave Brightness Temperature Variations of Boreal Forests under Dry Snow Cover Conditions. , 0, , .		0
144	Review Article: Global Monitoring of Snow Water Equivalent using High Frequency Radar Remote Sensing. , 0, , .		4