

# Mats Ingemar Pettersson

## List of Publications by Year in descending order

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142  
papers

1,469  
citations

430442

18  
h-index

433756

31  
g-index

142  
all docs

142  
docs citations

142  
times ranked

861  
citing authors

#	ARTICLE	IF	CITATIONS
1	On Objectives of Instructional Laboratories, Individual Assessment, and Use of Collaborative Remote Laboratories. IEEE Transactions on Learning Technologies, 2009, 2, 263-274.	2.2	165
2	Detection of Moving Targets by Focusing in UWB SAR Theory and Experimental Results. IEEE Transactions on Geoscience and Remote Sensing, 2010, 48, 3799-3815.	2.7	92
3	On integrated radar and communication systems using Oppermann sequences. , 2008, , .		61
4	Detection of moving targets in wideband SAR. IEEE Transactions on Aerospace and Electronic Systems, 2004, 40, 780-796.	2.6	56
5	An Impulse Response Function for Evaluation of UWB SAR Imaging. IEEE Transactions on Signal Processing, 2010, 58, 3927-3932.	3.2	49
6	RFI Suppression in Ultrawideband SAR Using an Adaptive Line Enhancer. IEEE Geoscience and Remote Sensing Letters, 2010, 7, 694-698.	1.4	44
7	Suppression of Clutter in Multichannel SAR GMTI. IEEE Transactions on Geoscience and Remote Sensing, 2014, 52, 4005-4013.	2.7	43
8	Moving Target Relative Speed Estimation and Refocusing in Synthetic Aperture Radar Images. IEEE Transactions on Aerospace and Electronic Systems, 2012, 48, 2426-2436.	2.6	40
9	Imaging of Oil-Well Perforations Using UWB Synthetic Aperture Radar. IEEE Transactions on Geoscience and Remote Sensing, 2015, 53, 4510-4520.	2.7	38
10	Fast Time-Domain Algorithms for UWB Bistatic SAR Processing. IEEE Transactions on Aerospace and Electronic Systems, 2013, 49, 1982-1994.	2.6	35
11	False Alarm Reduction in Wavelength-Resolution SAR Change Detection Using Adaptive Noise Canceler. IEEE Transactions on Geoscience and Remote Sensing, 2017, 55, 591-599.	2.7	32
12	Vehicle speed measurement model for video-based systems. Computers and Electrical Engineering, 2019, 76, 238-248.	3.0	32
13	Adaptive digital beamforming for interference suppression in automotive FMCW radars. , 2018, , .		27
14	Nyquist Sampling Requirements for Polar Grids in Bistatic Time-Domain Algorithms. IEEE Transactions on Signal Processing, 2015, 63, 457-465.	3.2	26
15	Bivariate Gamma Distribution for Wavelength-Resolution SAR Change Detection. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 473-481.	2.7	25
16	Fast Backprojection Algorithms Based on Subapertures and Local Polar Coordinates for General Bistatic Airborne SAR Systems. IEEE Transactions on Geoscience and Remote Sensing, 2016, 54, 2706-2712.	2.7	24
17	The Stability of UWB Low-Frequency SAR Images. IEEE Geoscience and Remote Sensing Letters, 2016, 13, 1114-1118.	1.4	23
18	Autoregressive Model-Based Signal Reconstruction for Automotive Radar Interference Mitigation. IEEE Sensors Journal, 2021, 21, 6575-6586.	2.4	23

#	ARTICLE	IF	CITATIONS
19	Vehicle Detection in Aerial Images Based on 3D Depth Maps and Deep Neural Networks. IEEE Access, 2021, 9, 8381-8391.	2.6	21
20	Vehicle Classification Based on Multiple Fuzzy C-Means Clustering Using Dimensions and Speed Features. Procedia Computer Science, 2018, 126, 1344-1350.	1.2	19
21	On Synthetic Aperture Radar Azimuth and Range Resolution Equations. IEEE Transactions on Aerospace and Electronic Systems, 2012, 48, 1764-1769.	2.6	18
22	Extraction of moving ground targets by a bistatic ultra-wideband SAR. IET Radar, Sonar & Navigation, 2001, 148, 35.	2.1	17
23	Definition on SAR image quality measurements for UWB SAR. , 2008, , .		17
24	A Modified TEM Horn Antenna Customized for Oil Well Monitoring Applications. IEEE Transactions on Antennas and Propagation, 2013, 61, 5902-5909.	3.1	17
25	Phase Error Calculation for Fast Time-Domain Bistatic SAR Algorithms. IEEE Transactions on Aerospace and Electronic Systems, 2013, 49, 631-639.	2.6	17
26	Change Detection in UWB SAR Images Based on Robust Principal Component Analysis. Remote Sensing, 2020, 12, 1916.	1.8	15
27	<title>The VHF/UHF-band LORA SAR and GMTI system</title>. , 2003, , .		14
28	Optimum relative speed discretisation for detection of moving objects in wide band SAR. IET Radar, Sonar and Navigation, 2007, 1, 213.	0.9	14
29	A Comparison between Fast Factorized Backprojection and Frequency-Domain Algorithms in UWB Lowfrequency SAR. , 2008, , .		14
30	Ultrawideband Chirp Scaling Algorithm. IEEE Geoscience and Remote Sensing Letters, 2010, 7, 281-285.	1.4	14
31	Fast backprojection algorithm for UWB bistatic SAR. , 2011, , .		14
32	Rayleigh Regression Model for Ground Type Detection in SAR Imagery. IEEE Geoscience and Remote Sensing Letters, 2019, 16, 1660-1664.	1.4	14
33	Comparison of the Rayleigh and K-Distributions for Application in Incoherent Change Detection. IEEE Geoscience and Remote Sensing Letters, 2019, 16, 756-760.	1.4	13
34	A Statistical Analysis for Wavelength-Resolution SAR Image Stacks. IEEE Geoscience and Remote Sensing Letters, 2020, 17, 227-231.	1.4	13
35	Moving Target Detection by Focusing for Frequency Domain Algorithms in UWB Low Frequency SAR. , 2008, , .		12
36	Performance Assessment of Polyphase Pulse Compression Codes. , 2008, , .		12

#	ARTICLE	IF	CITATIONS
37	SAR imaging in ground plane using Fast Backprojection for mono- and bistatic cases. , 2012, , .		12
38	Likelihood ratio test for incoherent wavelength-resolution SAR change detection. , 2016, , .		11
39	Moving Target Focusing in SAR Image With Known Normalized Relative Speed. IEEE Transactions on Aerospace and Electronic Systems, 2017, 53, 854-861.	2.6	11
40	Derivation of Bistatic SAR Resolution Equations Based on Backprojection. IEEE Geoscience and Remote Sensing Letters, 2018, 15, 694-698.	1.4	11
41	Space time adaptive processing for moving target detection and imaging in bistatic SAR. , 2011, , .		10
42	Wavelength-Resolution SAR Ground Scene Prediction Based on Image Stack. Sensors, 2020, 20, 2008.	2.1	10
43	Comparison between whitened generalized cross correlation and adaptive filter for time delay estimation with scattered arrays for passive positioning of moving targets in Baltic Sea shallow waters. , 0, , .		9
44	Detection and imaging of moving targets in wide band SAS using fast time backprojection combined with space time processing. , 0, , .		9
45	Two-Dimensional Spectrum for BiSAR Derivation Based on Lagrange Inversion Theorem. IEEE Geoscience and Remote Sensing Letters, 2014, 11, 1210-1214.	1.4	9
46	False Alarm Reduction in Wavelength-Resolution SAR Change Detection Schemes by Using a Convolutional Neural Network. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	1.4	9
47	CNN-Based Change Detection Algorithm for Wavelength-Resolution SAR Images. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	1.4	9
48	QoE-based Cross-Layer Design of Mobile Video Systems: Challenges and Concepts. , 2009, , .		8
49	An approach to suppress RFI in ultrawideband low frequency SAR. , 2010, , .		8
50	A Wavelength-Resolution SAR Change Detection Method Based on Image Stack through Robust Principal Component Analysis. Remote Sensing, 2021, 13, 833.	1.8	8
51	Experimental results on moving target detection by focusing in UWB low frequency SAR. , 2007, , .		7
52	Fast factorized backprojection algorithm for UWB SAR image reconstruction. , 2011, , .		7
53	Studying CSAR systems using IRF-CSAR. , 2012, , .		7
54	Doppler and cross-range resolutions in bistatic forward-looking SAR imaging. , 2015, , .		7

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55	A Change Detection Algorithm for Sar Images Based on Logistic Regression. , 2019, , .		7
56	Wavelength-Resolution SAR Change Detection Using Bayesâ€™ Theorem. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2020, 13, 5560-5568.	2.3	7
57	The availability of fast time-domain algorithms for circular SAR data processing. , 2012, , .		6
58	Supervised Detection of Ionospheric Scintillation in Low-Latitude Radio Occultation Measurements. Remote Sensing, 2021, 13, 1690.	1.8	6
59	Non-Cooperative SAR Automatic Target Recognition Based on Scattering Centers Models. Sensors, 2022, 22, 1293.	2.1	6
60	SAR observations of Arctic freeze-up compared to SSM/I during ARCTIC'91. International Journal of Remote Sensing, 1996, 17, 2603-2624.	1.3	5
61	2D apodization in UWB SAR using linear filtering. , 2011, , .		5
62	Analysis of reflections in GNSS radio occultation measurements using the phase matching amplitude. Atmospheric Measurement Techniques, 2018, 11, 569-580.	1.2	5
63	Stability in Sar Change Detection Results Using Bivariate Rayleigh Distribution For Statistical Hypothesis Test. , 2019, , .		5
64	Evaluation of Ionospheric Scintillation in GNSS Radio Occultation Measurements and Simulations. Radio Science, 2020, 55, e2019RS006996.	0.8	5
65	Sub-mm Resolution Indoor THz Range and SAR Imaging of Concealed Object. , 2020, , .		5
66	Passive scattered array positioning method for underwater acoustic source. , 2006, , .		4
67	Four-dimensional discretization for detection of moving objects in Wide Band SAR. , 2007, , .		4
68	Moving target refocusing algorithm for synthetic aperture radar images. , 2010, , .		4
69	Integrating space-time processing into time-domain backprojection process for detection and imaging moving objects. , 2010, , .		4
70	Performance of moving target parameter estimation using SAR. IEEE Transactions on Aerospace and Electronic Systems, 2015, 51, 1191-1202.	2.6	4
71	Wavelength-resolution SAR change detection with constant false alarm rate. , 2017, , .		4
72	GNSS Radio Occultation Simulation Using Multiple Phase Screen Orbit Sampling. IEEE Geoscience and Remote Sensing Letters, 2020, 17, 1323-1327.	1.4	4

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73	Neymanâ€™Pearson Criterion-Based Change Detection Methods for Wavelengthâ€™Resolution SAR Image Stacks. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	1.4	4
74	Remote Access of Computer Controlled Experiments. International Journal of Online Engineering, 2008, 4, .	0.5	4
75	Autoregressive model for multi-pass SAR change detection based on image stacks. , 2018, , .		4
76	GIP test for Automotive FMCW interference Detection and Suppression. , 2020, , .		4
77	Signal Reconstruction Using Bi-LSTM for Automotive Radar Interference Mitigation. , 2022, , .		4
78	Speed estimation experiments for ground moving targets in UWB SAR. , 2007, , .		3
79	A comparative study of the polar version with the subimage version of Fast Factorized Backprojection in UWB SAR. , 2008, , .		3
80	Properties of ambiguity functions for weighted pulse trains with Oppermann sequences. , 2009, , .		3
81	Application of the moving target detection by focusing technique in civil traffic monitoring. , 2010, , .		3
82	Experimental Results of Passive Imaging of Moving Continuous Broadband Sound Sources Within a Sensor Field. IEEE Journal of Oceanic Engineering, 2011, 36, 25-36.	2.1	3
83	On bistatic forward-looking SAR imaging. , 2014, , .		3
84	SAR resolution enhancement with circular aperture in theory and empirical scenario. , 2014, , .		3
85	Empirical-statistical analysis of amplitude SAR images for change detection algorithms. , 2015, , .		3
86	Experimental results on change detection based on Bayes probability theorem. , 2015, , .		3
87	Experimental results on focusing moving targets in TerraSAR-X and TanDEM-X images. , 2016, , .		3
88	A Measurement Campaign in Harbor to Detect Changes of Activities. , 2019, , .		3
89	Experimental Evaluation of Adaptive Beamforming for Automotive Radar Interference Suppression. , 2020, , .		3
90	Adjustable Contrast Enhancement Using Fast Piecewise Linear Histogram Equalization. , 2020, , .		3

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91	Fast Detection of Moving Targets by Focusing in UWB low frequency SAR. , 2009, , .		2
92	Cross-ambiguity function of weighted pulse trains with Oppermann sequences. , 2009, , .		2
93	Moving target focusing with Normalized Relative Speed in azimuth-invariant bistatic SAR. , 2013, , .		2
94	Ground moving target detection and estimation with different SAR linear flight tracks. , 2013, , .		2
95	SAR image statistics and adaptive signal processing for change detection. Proceedings of SPIE, 2015, , .	0.8	2
96	Fast-Time and Slow-Time Space-Time Adaptive Processing for bistatic radar interference suppression. , 2015, , .		2
97	Change detection in aerial images using a Kendall's TAU distance pattern correlation. , 2016, , .		2
98	Local detection of moving target by focusing in SAR images. , 2016, , .		2
99	Measurement of traffic flows with SAR " Field test on the Swedish road network. , 2017, , .		2
100	Incoherent detection of man-made objects obscured by foliage in forest area. , 2017, , .		2
101	A Detector for Wavelength Resolution SAR Incoherent Change Detection. , 2019, , .		2
102	Change Detection in Aerial Images Using Three-Dimensional Feature Maps. Remote Sensing, 2020, 12, 1404.	1.8	2
103	Using A Sliding Window Phase Matching Method for Imaging of GNSS Radio Occultation Signals. Remote Sensing, 2021, 13, 970.	1.8	2
104	Terahertz Three-Dimensional SAR Imaging Using Time- and Frequency-Domain Algorithms. , 2021, , .		2
105	Fourier Transform of SAR Data Cube and 3-D Range Migration Algorithm. IEEE Transactions on Aerospace and Electronic Systems, 2022, 58, 2584-2591.	2.6	2
106	Interpolation Methods with Phase Control for Backprojection of Complex-Valued SAR Data. Sensors, 2022, 22, 4941.	2.1	2
107	<title>Simulations of ground moving target indication in an ultrawideband and wide-beam SAR system</title>. , 1999, , .		1
108	Lower bounds of moving target estimation in low frequency UWB SAR. , 2008, , .		1

#	ARTICLE	IF	CITATIONS
109	Moving Target Relative Speed Estimation in the Presence of Strong Stationary Surrounding Using a Single Antenna UWB SAR System. , 2008, , .		1
110	The capability of time- and frequency-domain algorithms for bistatic SAR processing. Proceedings of SPIE, 2013, , .	0.8	1
111	A method to implement SAR slow-time step in beamforming stage of fast backprojection algorithm. , 2014, , .		1
112	A three-dimensional displaced phase center antenna condition for clutter cancellation. , 2014, , .		1
113	Ground moving target detection and estimation by using dual speed SAR platform. , 2014, , .		1
114	Measurement of Rank and Other Properties of Direct and Scattered Signals. International Journal of Antennas and Propagation, 2016, 2016, 1-17.	0.7	1
115	A CFAR optimization for low frequency UWB SAR change detection algorithms. , 2017, , .		1
116	A hybrid GMTI method for reliable detection results in SAR images. , 2018, , .		1
117	New Forms of Likelihood Ratio Test for SAR Change Detection. IEEE Access, 2021, 9, 127906-127916.	2.6	1
118	Sidelobe Control for Bistatic SAR Imaging. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	1.4	1
119	Interpolation Methods for SAR Backprojection at THz Frequencies. , 2021, , .		1
120	Iterative Change Detection Algorithm for Low-Frequency UWB SAR. , 2016, , .		1
121	Tilt Phenomenon in Bistatic SAR Image. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	1.4	1
122	Change Detection and Signature Classification for SAR GMTI. , 2020, , .		1
123	Relative Speed Step Size in SAR processing for Moving Target Detection. , 2006, , .		0
124	A TEM horn antenna with non-uniform expansion for oil well monitoring. , 2012, , .		0
125	Another possibility to focus moving targets by normalized relative speed in UWB SAR. Proceedings of SPIE, 2013, , .	0.8	0
126	Auxiliary beam terrain-scattered interference suppression: reflection system and radar performance. IET Radar, Sonar and Navigation, 2013, 7, 836-847.	0.9	0



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127	A simulation study of the effect of ionospheric vertical gradients on the neutral bending angle error for GNSS radio occultation. , 2017, , .		0
128	Determining the refractivity at the bottom of the atmosphere using radio occultation. , 2017, , .		0
129	Design of A Video-Based Vehicle Speed Measurement System - An Uncertainty Approach. , 2018, , .		0
130	Two-Dimensional Data Conversion for One-Dimensional Adaptive Noise Canceler in Low-Frequency SAR Change Detection. IEEE Transactions on Aerospace and Electronic Systems, 2018, 54, 2611-2618.	2.6	0
131	Range migration algorithm for bistatic SAR. , 2018, , .		0
132	Wavelength-resolution SAR Change Detection with Changing Flight Heading During Passes. , 2019, , .		0
133	Conventional SAR Change Detection Using Methods for Non-conventional SAR. , 2020, , .		0
134	Robust Rayleigh Regression Method for SAR Image Processing in Presence of Outliers. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-12.	2.7	0
135	Changing flight heading during pass to enhance SAR change detection performance. IET Radar, Sonar and Navigation, 2021, 15, 817-826.	0.9	0
136	Change detection method for intensity VHF wavelength-resolution SAR images. , 2021, , .		0
137	Comparing reflection signatures in radio occultation measurements using the full spectrum inversion and phase matching methods. , 2018, , .		0
138	Discrimination Algorithm for False Alarm Reduction in SAR Incoherent Change Detection. , 2019, , .		0
139	Incoherent Change Detection Methods for Wavelength-Resolution SAR Image Stacks Based on Masking Techniques. , 2020, , .		0
140	Enhancing Conventional SAR Change Detection Performance with Apodization. , 2020, , .		0
141	Change detection in UWB VHF SAR images exploiting flight heading diversity through robust principal component analysis. , 2020, , .		0
142	Unsupervised Automatic Target Detection for Multitemporal SAR Images based on Adaptive K-means Algorithm. , 2020, , .		0