Gerhard Krieger

List of Publications by Year in descending order

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280 papers 10,961 citations

45 h-index 97 g-index

284 all docs

284 docs citations

times ranked

284

4934 citing authors

#	Article	IF	Citations
1	Experimental Demonstration of Nadir Echo Removal in SAR Using Waveform Diversity and Dual-Focus Postprocessing. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	3.1	7
2	Numerical Calculation of Doppler Steering Laws in Bi- and Multistatic SAR. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-16.	6.3	1
3	Tracking and Track Management of Extended Targets in Range-Doppler Using Range-Compressed Airborne Radar Data. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-20.	6.3	6
4	Periodic orbits for interferometric and tomographic radar imaging of Saturn's moon Enceladus. Acta Astronautica, 2022, 191, 326-345.	3.2	2
5	Virtual Synthetic Aperture Radar Target Based on a Miniaturized Monostatic Digital Delay Transponder. IEEE Microwave and Wireless Components Letters, 2022, 32, 249-252.	3.2	3
6	MirrorSAR: An HRWS Add-On for Single-Pass Multi-Baseline SAR Interferometry. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-18.	6.3	16
7	A Low-Power, Ambiguous Synthetic Aperture Radar Concept for Continuous Ship Monitoring. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2022, 15, 1244-1255.	4.9	8
8	Autofocus-Based Estimation of Penetration Depth and Permittivity of Ice Volumes and Snow Using Single SAR Images. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-15.	6.3	3
9	On-Ground RFI Mitigation for Spaceborne Multichannel SAR Systems Using Auxiliary Beams. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-18.	6.3	5
10	Radiometric Degradation Associated With Terrain Height Variations and Pulse Duration in Scan-On-Receive SAR Images. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-14.	6.3	4
11	Phase Correction for Accurate DOA Angle and Position Estimation of Ground-Moving Targets Using Multi-Channel Airborne Radar. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	3.1	4
12	Direction-of-Arrival Angle and Position Estimation for Extended Targets Using Multichannel Airborne Radar Data. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	3.1	4
13	Errata for "Autofocus-Based Estimation of Penetration Depth and Permittivity of Ice Volumes and Snow Using Single SAR Images― IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-1.	6.3	1
14	Approaches for Road Surface Roughness Estimation Using Airborne Polarimetric SAR. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2022, 15, 3444-3462.	4.9	7
15	Multistatic Dispersed Swarm Configurations for Synthetic Aperture Radar Imaging. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	3.1	4
16	Performance-Optimized Quantization for SAR and InSAR Applications. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-22.	6.3	6
17	Slow Pulse Repetition Interval Variation for High-Resolution Wide-Swath SAR Imaging. IEEE Transactions on Geoscience and Remote Sensing, 2021, 59, 5665-5686.	6.3	7
18	Error Analysis for Digital Beamforming Synthetic Aperture Radars: A Comparison of Phased Array and Array-Fed Reflector Systems. IEEE Transactions on Geoscience and Remote Sensing, 2021, 59, 6314-6322.	6.3	8

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19	In-Flight Multichannel Calibration for Along-Track Interferometric Airborne Radar. IEEE Transactions on Geoscience and Remote Sensing, 2021, 59, 3104-3121.	6.3	8
20	TanDEM-X: 10 Years of Formation Flying Bistatic SAR Interferometry. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 3546-3565.	4.9	36
21	Detecting Ships in the New Zealand Exclusive Economic Zone: Requirements for a Dedicated SmallSat SAR Mission. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 3162-3169.	4.9	10
22	Coupling effects in arrayâ€fed reflector antennas with digital beamforming. IET Microwaves, Antennas and Propagation, 2021, 15, 1594-1604.	1.4	0
23	Adaptive Calibration of the Tandem-L Ground Demonstrator. , 2021, , .		0
24	Coupling Effects in Ka-band Reflector Antennas. , 2021, , .		0
25	Digital Beamforming for Spaceborne Reflector-Based Synthetic Aperture Radar, Part 1: Basic imaging modes. IEEE Geoscience and Remote Sensing Magazine, 2021, 9, 8-25.	9.6	15
26	The TanDEM-X Mission Phasesâ€"Ten Years of Bistatic Acquisition and Formation Planning. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 3504-3518.	4.9	12
27	Design of a Low-Cost Synthetic Aperture Radar for Continuous Ship Monitoring. , 2021, , .		1
28	On a Dual PRI Pulse Sequence Mode for High-Resolution Wide-Swath SAR Imaging. , 2021, , .		2
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30	MEO SAR: System Concepts and Analysis. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 1313-1324.	6.3	14
31	Simultaneous Single-/Dual- and Quad-Pol SAR Imaging Over Swaths of Different Widths. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 2096-2103.	6.3	5
32	Predictive Quantization for Data Volume Reduction in Staggered SAR Systems. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 5575-5587.	6.3	10
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36	Possible Sources of Imaging Performance Degradation in Advanced Spaceborne SAR Systems Based on Scan-On-Receive. , 2020, , .		2

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37	NewSpace SAR: Disruptive Concepts for Cost-Effective Earth Observation Missions., 2020,,.		1
38	Multichannel Staggered SAR: System Concepts With Reflector and Planar Antennas. IEEE Transactions on Aerospace and Electronic Systems, 2019, 55, 877-902.	4.7	18
39	Spaceborne Demonstration of Distributed SAR Imaging With TerraSAR-X and TanDEM-X. IEEE Geoscience and Remote Sensing Letters, 2019, 16, 1731-1735.	3.1	26
40	Efficient Onboard Quantization for Multichannel SAR Systems. IEEE Geoscience and Remote Sensing Letters, 2019, 16, 1859-1863.	3.1	8
41	Assessment of Image Quality of Waveform-Encoded Synthetic Aperture Radar Using Real Satellite Data. , 2019, , .		6
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43	Predictive Quantization for Staggered Synthetic Aperture Radar. , 2019, , .		0
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45	Addressing the Terrain Topography in Distributed SAR Imaging. , 2019, , .		4
46	Digital Beamforming Based RFI Extraction for an On-Ground Correction of Synthetic Aperture Radar Data. , $2019, , .$		0
47	The Cost of Opportunity for Gapless Imaging. , 2019, , .		5
48	A Novel Imaging Mode for Simultaneous Single-/Dual- and Quad-Pol SAR Acquisition over Swaths of Different Widths. , 2019, , .		1
49	On the use of Time-Domain SAR Focusing in Spaceborne SAR Missions. , 2019, , .		5
50	Multifrequency Subpulse SAR: Exploiting Chirp Bandwidth for an Increased Coverage. IEEE Geoscience and Remote Sensing Letters, 2019, 16, 40-44.	3.1	19
51	Multichannel Staggered SAR Azimuth Processing. IEEE Transactions on Geoscience and Remote Sensing, 2018, 56, 2772-2788.	6.3	30
52	The global forest/non-forest map from TanDEM-X interferometric SAR data. Remote Sensing of Environment, 2018, 205, 352-373.	11.0	122
53	An Analytical Error Model for Spaceborne SAR Multichannel Azimuth Reconstruction. IEEE Geoscience and Remote Sensing Letters, 2018, 15, 853-857.	3.1	18
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55	Observation Strategy and Flight Configuration for Monitoring Earth Dynamics with the Tandem-L Mission. , $2018, , .$		2
56	Tandem-L: Project Status and Main Findings of the Phase Bl Study. , 2018, , .		7
57	A New Slow PRI Variation Scheme for Multichannel SAR High-Resolution Wide-Swath Imaging. , 2018, , .		9
58	An Internal Instrument Calibration Simulator for Multi-Channel Sar., 2018,,.		6
59	Monitoring dynamic processes on the earth's surface using synthetic aperture radar. , 2018, , .		4
60	Beam-Switch Wide-Swath Mode for Interferometrically Compatible Single-Pol and Quad-Pol SAR Products. IEEE Geoscience and Remote Sensing Letters, 2018, 15, 1565-1569.	3.1	2
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66	Tandem-L observation concept - contributions and challenges of systematic monitoring of earth system dynamics. , 2017, , .		4
67	MirrorSAR: A fractionated space radar for bistatic, multistatic and high-resolution wide-swath SAR imaging. , 2017, , .		32
68	Investigations on the internal calibration of multi-channel SAR. , 2017, , .		8
69	Production of a global forest/non-forest map utilizing TanDEM-X interferometric SAR data., 2017,,.		5
70	Multichannel staggered SAR with reflector antennas: Discussion and proof of concept. , 2017, , .		1
71	The global TanDEM-X DEM — A unique data set. , 2017, , .		8
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75	TanDEM-X., 2017, , 525-554.		1
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86	Dual-Platform Large Along-Track Baseline GMTI. IEEE Transactions on Geoscience and Remote Sensing, 2016, 54, 1554-1574.	6.3	17
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100	A Ka/X-band digital beamforming synthetic aperture radar for earth observation. , 2015, , .		7
101	Development of new multi-band equatorially orbiting POLinSAR satellite sensors system configurations for varying latitudinal coverage within total tropical belt: Invited group presentation for establishing an associated Consortium., 2015, , .		0
102	SAOCOM-CS SAR imaging performance evaluation in large baseline bistatic configuration. , 2015, , .		6
103	Tandem-L: A Highly Innovative Bistatic SAR Mission for Global Observation of Dynamic Processes on the Earth's Surface. IEEE Geoscience and Remote Sensing Magazine, 2015, 3, 8-23.	9.6	224
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106	On the Pulse Extension Loss in Digital Beamforming SAR. IEEE Geoscience and Remote Sensing Letters, 2015, 12, 1436-1440.	3.1	37
107	Smart antennas for space-borne synthetic aperture radars. Applied Physics A: Materials Science and Processing, 2015, 121, 1045-1051.	2.3	0
108	Simultaneous High-Resolution Wide-Swath SAR Imaging and Ground Moving Target Indication: Processing Approaches and System Concepts. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2015, 8, 5015-5029.	4.9	58

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111	Advanced spaceborne SAR systems with array-fed reflector antennas. , 2015, , .		4
112	Ambiguities and image quality in staggered SAR. , 2015, , .		18
113	Signal-to-noise ratio gain in multi-channel SAR with digital beamforming. , 2015, , .		1
114	Quantization Effects in TanDEM-X Data. IEEE Transactions on Geoscience and Remote Sensing, 2015, 53, 583-597.	6.3	35
115	Reconstruction of Coherent Pairs of Synthetic Aperture Radar Data Acquired in Interrupted Mode. IEEE Transactions on Geoscience and Remote Sensing, 2015, 53, 1876-1893.	6.3	24
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118	Bistatic SAR image formation: A systematic approach. , 2014, , .		4
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120	MIMO-SAR: Opportunities and Pitfalls. IEEE Transactions on Geoscience and Remote Sensing, 2014, 52, 2628-2645.	6.3	291
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125	Spectral-Based Estimation of the Local Azimuth Ambiguity-to-Signal Ratio in SAR Images. IEEE Transactions on Geoscience and Remote Sensing, 2014, 52, 2304-2313.	6.3	27
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127	An orthogonal waveform for fully polarimetric MIMO-SAR. , 2014, , .		2
128	TanDEM-X: The New Global DEM Takes Shape. IEEE Geoscience and Remote Sensing Magazine, 2014, 2, 8-23.	9.6	171
129	A Novel Processing Strategy for Staggered SAR. IEEE Geoscience and Remote Sensing Letters, 2014, 11, 1891-1895.	3.1	46
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133	TanDEM-X: A radar interferometer with two formation-flying satellites. Acta Astronautica, 2013, 89, 83-98.	3.2	167
134	A Dual-Focus Reflector Antenna for Spaceborne SAR Systems With Digital Beamforming. IEEE Transactions on Antennas and Propagation, 2013, 61, 1461-1465.	5.1	5
135	A tutorial on synthetic aperture radar. IEEE Geoscience and Remote Sensing Magazine, 2013, 1, 6-43.	9.6	1,580
136	First Spaceborne Demonstration of Digital Beamforming for Azimuth Ambiguity Suppression. IEEE Transactions on Geoscience and Remote Sensing, 2013, 51, 579-590.	6.3	93
137	Reconstruction of missing data in interferometric SAR systems. , 2013, , .		3
138	On Some Spectral Properties of TanDEM-X Interferograms Over Forested Areas. IEEE Geoscience and Remote Sensing Letters, 2013, 10, 71-75.	3.1	36
139	Concept of a multi-beam reflectarray digital-beam forming synthetic aperture radar. , 2013, , .		2
140	Correlating SAR (CoSAR): Concept, performance analysis, and mission concepts., 2013,,.		1
141	Instrument architecture, advanced digital beamforming techniques, and operation modes for an enhanced signal mission concept. , 2013, , .		0
142	Impact of SAR data quantization on TanDEM-X performance., 2013,,.		3
143	TanDEM-X acquisition and quality overview with two global coverages. , 2013, , .		3
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145	Exploring the trade-space of MIMO SAR. , 2013, , .		7
146	Results of the TanDEM-X Baseline Calibration. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2013, 6, 1495-1501.	4.9	21
147	First 2 years of TanDEMâ€X mission: Interferometric performance overview. Radio Science, 2013, 48, 617-627.	1.6	16
148	Multistatic Radar Systems. , 2013, , 61-122.		9
149	Approach to velocity and acceleration measurement in the Bi-Directional SAR imaging mode. , 2012, , .		7
150	Advanced operation mode techniques for an interferometric Synthetic Aperture Radar., 2012, , .		0
151	Unexpected height offsets in TanDEM-X: Explanation and correction. , 2012, , .		13
152	Performance investigation on the High-Resolution Wide-Swath SAR system operating in Multisubpulse mode. , 2012, , .		10
153	InSAR and DEM quality monitoring of TanDEM-X. , 2012, , .		11
154	1 and 5 day differential InSAR under crossing orbits with TerraSAR-X., 2012, , .		2
155	Digital Beam-Forming reconfigurable Radar System demonstrator. , 2012, , .		10
156	TanDEM-X acquisition status and calibration of the interferometric system. , 2012, , .		5
157	Accounting for azimuth ambiguities in interferometric performance analysis. , 2012, , .		2
158	Bistatic SAR experiments with the TanDEM-X constellation. , 2012, , .		3
159	Observations and discussions of TanDEM-X interferogram spectra over rain forest. , 2012, , .		1
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161	Monitoring the Petermann ice island with TanDEM-X. , 2012, , .		3
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163	A priori knowledge-based Post-Doppler STAP for traffic monitoring applications. , 2012, , .		6
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175	First Bistatic Spaceborne SAR Experiments With TanDEM-X. IEEE Geoscience and Remote Sensing Letters, 2012, 9, 33-37.	3.1	78
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178	Airborne Demonstration of Multichannel SAR Imaging. IEEE Geoscience and Remote Sensing Letters, 2011, 8, 963-967.	3.1	52
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182	Ambiguity suppression by Azimuth Phase Coding in multichannel SAR systems. , 2011, , .		1
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184	Tandem-L: A mission proposal for monitoring dynamic earth processes., 2011,,.		25
185	Distributed imaging with TerraSAR-X and TanDEM-X., 2011, , .		4
186	Large along-track baseline SAR-GMTI: First results with the TerraSAR-X/TanDEM-X satellite constellation. , $2011, \ldots$		13
187	Design and optimization aspects for reflector-based Synthetic Aperture Radar., 2011,,.		0
188	Performance investigation on the high-resolution wide-swath SAR system operating in stripmap quad-pol and ultra-wide scansar mode. , $2011, \dots$		5
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193	Interferometric Synthetic Aperture Radar (SAR) Missions Employing Formation Flying. Proceedings of the IEEE, 2010, 98, 816-843.	21.3	160
194	Concept study of radar sensors for near-field tsunami early warning. Natural Hazards and Earth System Sciences, 2010, 10, 1957-1964.	3.6	3
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