

Orhan Arikan

List of Publications by Year in descending order

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Version: 2024-02-01

203
papers

3,672
citations

236612

25
h-index

161609

54
g-index

204
all docs

204
docs citations

204
times ranked

2118
citing authors

#	ARTICLE	IF	CITATIONS
1	Digital computation of the fractional Fourier transform. IEEE Transactions on Signal Processing, 1996, 44, 2141-2150.	3.2	932
2	Optimal filtering in fractional Fourier domains. IEEE Transactions on Signal Processing, 1997, 45, 1129-1143.	3.2	245
3	Short-time fourier transform: two fundamental properties and an optimal implementation. IEEE Transactions on Signal Processing, 2003, 51, 1231-1242.	3.2	187
4	Estimation of single station interfrequency receiver bias using GPSâ€TEC. Radio Science, 2008, 43, .	0.8	170
5	Regularized estimation of vertical total electron content from Global Positioning System data. Journal of Geophysical Research, 2003, 108, .	3.3	139
6	Online, automatic, nearâ€real time estimation ofâ€GPSâ€TEC: IONOLABâ€TEC. Space Weather, 2013, 11, 297-305.	0.5	98
7	Adaptive filtering for non-Gaussian stable processes. IEEE Signal Processing Letters, 1994, 1, 163-165.	2.1	93
8	Total Electron Content Estimation with Regâ€Est. Journal of Geophysical Research, 2007, 112, .	3.3	93
9	Regularized estimation of vertical total electron content from GPS data for a desired time period. Radio Science, 2004, 39, n/a-n/a.	0.8	65
10	Regularized estimation of TEC from GPS data for certain midlatitude stations and comparison with the IRI model. Advances in Space Research, 2007, 39, 867-874.	1.2	52
11	Regional TEC mapping with Random Field Priors and Kriging. Radio Science, 2008, 43, .	0.8	51
12	A robust compressive sensing based technique for reconstruction of sparse radar scenes. , 2014, 27, 23-32.		51
13	Optimal filtering in fractional Fourier domains. , 0, , .		50
14	An efficient and accurate technique for the incident-wave excitations in the FDTD method. IEEE Transactions on Microwave Theory and Techniques, 1998, 46, 869-882.	2.9	50
15	SAR image reconstruction and autofocus by compressed sensing. , 2012, 22, 923-932.		48
16	Perturbed Orthogonal Matching Pursuit. IEEE Transactions on Signal Processing, 2013, 61, 6220-6231.	3.2	48
17	Direct and Two-Step Positioning in Visible Light Systems. IEEE Transactions on Communications, 2018, 66, 239-254.	4.9	47
18	A New Method for Specific Emitter Identification With Results on Real Radar Measurements. IEEE Transactions on Information Forensics and Security, 2020, 15, 3335-3346.	4.5	44

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19	Reflection coefficient null of acoustic waves at a liquid–anisotropic–solid interface. Journal of the Acoustical Society of America, 1989, 85, 1-10.	0.5	43
20	Investigation of total electron content variability due to seismic and geomagnetic disturbances in the ionosphere. Radio Science, 2010, 45, n/a-n/a.	0.8	38
21	Maximum likelihood estimation of Gaussian mixture models using stochastic search. Pattern Recognition, 2012, 45, 2804-2816.	5.1	38
22	Robust adaptive filtering algorithms for \hat{L} -stable random processes. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1999, 46, 198-202.	2.3	37
23	Fast computation of the ambiguity function and the Wigner distribution on arbitrary line segments. IEEE Transactions on Signal Processing, 2001, 49, 381-393.	3.2	34
24	Optimal Stochastic Signaling for Power-Constrained Binary Communications Systems. IEEE Transactions on Wireless Communications, 2010, 9, 3650-3661.	6.1	32
25	Estimation of f_{mF2} and f_{oF2} Communication Parameters of Ionosphere F_2 -Layer Using GPS Data and IRI-Plas Model. IEEE Transactions on Antennas and Propagation, 2013, 61, 5264-5273.	3.1	32
26	Machine-based classification of ADHD and nonADHD participants using time/frequency features of event-related neuroelectric activity. Clinical Neurophysiology, 2017, 128, 2400-2410.	0.7	29
27	Deconvolution Under Normalized Autocorrelation Constraints. SPE Journal, 1997, 2, 246-253.	1.7	27
28	Optimal signaling and detector design for power-constrained binary communications systems over non-gaussian channels. IEEE Communications Letters, 2010, 14, 100-102.	2.5	27
29	Performance of GPS slant total electron content and IRI-Plas-STECh for days with ionospheric disturbance. Geodesy and Geodynamics, 2016, 7, 1-10.	1.0	27
30	Towards goal-oriented semantic signal processing: Applications and future challenges. , 2021, 119, 103134.		26
31	The fractional Fourier domain decomposition. Signal Processing, 1999, 77, 105-109.	2.1	23
32	Tomographic reconstruction of the ionospheric electron density as a function of space and time. Advances in Space Research, 2009, 43, 1702-1710.	1.2	23
33	Extraction of primary and secondary frequency control from active power generation data of power plants. International Journal of Electrical Power and Energy Systems, 2015, 73, 16-22.	3.3	22
34	Autofocused Spotlight SAR Image Reconstruction of Off-Grid Sparse Scenes. IEEE Transactions on Aerospace and Electronic Systems, 2017, 53, 1880-1892.	2.6	22
35	Time–frequency analysis of signals using support adaptive Hermite–Gaussian expansions. , 2012, 22, 1010-1023.		21
36	Space–bandwidth-efficient realizations of linear systems. Optics Letters, 1998, 23, 1069.	1.7	19

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37	Early time-locked gamma response and gender specificity. International Journal of Psychophysiology, 2006, 60, 225-239.	0.5	19
38	Observed Ionospheric Effects of 23 October 2011 Van, Turkey Earthquake. Geomatics, Natural Hazards and Risk, 2012, 3, 1-8.	2.0	19
39	A Machine Learning-Based Detection of Earthquake Precursors Using Ionospheric Data. Radio Science, 2020, 55, e2019RS006931.	0.8	18
40	Structured Least Squares Problems and Robust Estimators. IEEE Transactions on Signal Processing, 2010, 58, 2453-2465.	3.2	17
41	Online user-friendly slant total electron content computation from IRI-Plas: IRI-Plas-STEC. Space Weather, 2014, 12, 64-75.	1.3	17
42	SAR image reconstruction by expectation maximization based matching pursuit. , 2015, 37, 75-84.		17
43	Anaerobic treatability of leachate: a comparative evaluation for three different reactor systems. Water Science and Technology, 2000, 42, 287-292.	1.2	16
44	Time-frequency component analyser and its application to brain oscillatory activity. Journal of Neuroscience Methods, 2005, 145, 107-125.	1.3	16
45	Convexity Properties of Detection Probability Under Additive Gaussian Noise: Optimal Signaling and Jamming Strategies. IEEE Transactions on Signal Processing, 2013, 61, 3303-3310.	3.2	16
46	Regional model-based computerized ionospheric tomography using GPS measurements: IONOLAB-CIT. Radio Science, 2015, 50, 1062-1075.	0.8	15
47	Terabits-per-Second Throughput for Polar Codes. , 2019, , .		15
48	A new algorithm for high-quality ionogram generation and analysis. Radio Science, 2002, 37, 1-11.	0.8	14
49	FIR Filter Design by Convex Optimization Using Directed Iterative Rank Refinement Algorithm. IEEE Transactions on Signal Processing, 2016, 64, 2209-2219.	3.2	14
50	Regularized inversion of a two-dimensional integral equation with applications in borehole induction measurements. Radio Science, 1994, 29, 519-538.	0.8	13
51	The discrete fractional Fourier transformation. , 0, , .		12
52	Spatio-temporal interpolation of total electron content using a GPS network. Radio Science, 2013, 48, 302-309.	0.8	12
53	Sparse ground-penetrating radar imaging method for off-the-grid target problem. Journal of Electronic Imaging, 2013, 22, 021007.	0.5	12
54	Wideband maximum likelihood direction finding and signal parameter estimation by using the tree-structured EM algorithm. IEEE Transactions on Signal Processing, 1999, 47, 201-206.	3.2	11

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55	Optimal Stochastic Parameter Design for Estimation Problems. IEEE Transactions on Signal Processing, 2012, 60, 4950-4956.	3.2	10
56	Optimal Detector Randomization for Multiuser Communications Systems. IEEE Transactions on Communications, 2013, 61, 2876-2889.	4.9	10
57	Early gamma response of sleep is sensory/perceptual in origin. International Journal of Psychophysiology, 2006, 62, 152-167.	0.5	9
58	PERFORMANCE EVALUATION OF TRACK ASSOCIATION AND MAINTENANCE FOR A MFPAR WITH DOPPLER VELOCITY MEASUREMENTS. Progress in Electromagnetics Research, 2010, 108, 249-275.	1.6	9
59	Self-adaptive randomized and rank-based differential evolution for multimodal problems. Journal of Global Optimization, 2011, 51, 607-640.	1.1	9
60	Off-grid sparse SAR image reconstruction by EMMP algorithm. , 2013, , .		9
61	Optimal Channel Switching Over Gaussian Channels Under Average Power and Cost Constraints. IEEE Transactions on Communications, 2015, 63, 1907-1922.	4.9	9
62	Association of ionospheric storms and substorms of Global Electron Content with proxy AE index. Advances in Space Research, 2015, 56, 1343-1353.	1.2	9
63	PERFORMANCE EVALUATION OF THE SEQUENTIAL TRACK INITIATION SCHEMES WITH 3D POSITION AND DOPPLER VELOCITY MEASUREMENTS. Progress in Electromagnetics Research B, 2009, 18, 121-148.	0.7	8
64	Optimal Power Allocation for Jammer Nodes in Wireless Localization Systems. IEEE Transactions on Signal Processing, 2017, 65, 6489-6504.	3.2	8
65	Model based Computerized Ionospheric Tomography in space and time. Advances in Space Research, 2018, 61, 2057-2073.	1.2	8
66	GPS/TEC Estimation with IONOLAB Method. , 2007, , .		7
67	Fourier transform magnetic resonance current density imaging (FT-MRCDI) from one component of magnetic flux density. Physics in Medicine and Biology, 2010, 55, 3177-3199.	1.6	7
68	Expectation maximization based matching pursuit. , 2012, , .		7
69	Idler-efficiency-enhanced long-wave infrared beam generation using aperiodic orientation-patterned GaAs gratings. Applied Optics, 2016, 55, 2404.	2.1	7
70	Deep learning in electronic warfare systems: Automatic intra-pulse modulation recognition. , 2018, , .		7
71	Formulation of a general imaging algorithm for high-resolution synthetic aperture radar. , 0, , .		6
72	A high resolution time frequency representation with significantly reduced cross-terms. , 0, , .		6

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73	Synthetic TEC Mapping with Ordinary and Universal Kriging. , 2007, , .		6
74	Computerized ionospheric tomography with the IRI model. Advances in Space Research, 2007, 39, 859-866.	1.2	6
75	Structured least squares with bounded data uncertainties. , 2009, , .		6
76	On the optimality of stochastic signaling under an average power constraint. , 2010, , .		6
77	Tribological interaction between polytetrafluoroethylene and silicon oxide surfaces. Journal of Chemical Physics, 2014, 141, 164702.	1.2	6
78	Online calibration of Modulated Wideband Converter. , 2016, , .		6
79	Classification of Intra-Pulse Modulation of Radar Signals by Feature Fusion Based Convolutional Neural Networks. , 2018, , .		6
80	Detection of acute myocardial ischemia based on support vector machines. , 2018, , .		6
81	Estimation Theoretic Optimal Encoding Design for Secure Transmission of Multiple Parameters. IEEE Transactions on Signal Processing, 2019, 67, 4302-4316.	3.2	6
82	Iterative Hessian Sketch with Momentum. , 2019, , .		6
83	3-D Computerized ionospheric tomography with random field priors. , 2007, , 325-334.		6
84	Cost-efficient approximation of linear systems with repeated and multi-channel filtering configurations. , 0, , .		5
85	Interpolation and the chirp transform: DSP meets optics. , 1999, , .		5
86	Algorithm for high quality ionograms. Electronics Letters, 2000, 36, 985.	0.5	5
87	On robust solutions to linear least squares problems affected by data uncertainty and implementation errors with application to stochastic signal modeling. Linear Algebra and Its Applications, 2004, 391, 223-243.	0.4	5
88	A hybrid reconstruction algorithm for computerized ionospheric tomography. , 0, , .		5
89	A Novel Array Signal Processing Technique for Multipath Channel Parameter Estimation. , 2007, , .		5
90	A new technique for direction of arrival estimation for ionospheric multipath channels. Advances in Space Research, 2009, 44, 653-662.	1.2	5

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91	Multipath Separation-Direction of Arrival (MS-DOA) with Genetic Search Algorithm for HF channels. <i>Advances in Space Research</i> , 2009, 44, 641-652.	1.2	5
92	Early diagnosis of acute coronary syndromes with automatic ST/T classifier. , 2014, , .		5
93	Sparse delay-Doppler image reconstruction under off-grid problem. , 2014, , .		5
94	Optimal Signal Design for Multi-Parameter Estimation Problems. <i>IEEE Transactions on Signal Processing</i> , 2015, 63, 6074-6085.	3.2	5
95	Space weather studies of IONOLAB group. , 2016, , .		5
96	Machine-based learning system: Classification of ADHD and non-ADHD participants. , 2017, , .		5
97	Detection of Acute Coronary Syndrome Based on Support Vector Machines and ECG. , 2019, , .		5
98	A new technique for TEC estimation. , 0, , .		4
99	Comparison of the CAF-DF and SAGE algorithms in multipath channel parameter estimation. , 2008, , .		4
100	Investigation of hourly and daily patterns for lithosphere-ionosphere coupling before strong earthquakes. , 2009, , .		4
101	A Bayesian approach to respiration rate estimation via pulse-based ultra-wideband signals. , 2009, , .		4
102	A new OMP technique for sparse recovery. , 2012, , .		4
103	Sparsity order estimation for single snapshot compressed sensing. , 2014, , .		4
104	Detection of time-varying support via rank evolution approach for effective joint sparse recovery. , 2015, , .		4
105	Coronary Artery Disease Detection by using Support Vector Machines and Gaussian Mixture Model. , 2019, , .		4
106	Piecewise smooth signal denoising via principal curve projections. , 2008, , .		3
107	ERP source reconstruction by using Particle Swarm Optimization. , 2009, , .		3
108	Stochastic signaling under second and fourth moment constraints. , 2010, , .		3

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109	Polar code construction for non-binary source alphabets. , 2012, , .		3
110	Cross-ambiguity function domain multipath channel parameter estimation. , 2012, 22, 275-287.		3
111	Optimal Randomization of Signal Constellations on the Downlink of a Multiuser DS-CDMA System. IEEE Transactions on Wireless Communications, 2013, 12, 4878-4891.	6.1	3
112	Detection of sparse targets with structurally perturbed echo dictionaries. , 2013, 23, 1630-1644.		3
113	Investigation of ionospheric trend over Turkey using Sliding Window Statistical Analysis method. , 2013, , .		3
114	Mathematical modeling of the plasma frequency-height profile of the ionosphere for HF communications. , 2014, , .		3
115	Adaptive measurement matrix design for compressed DoA estimation with sensor arrays. , 2015, , .		3
116	Compressive Digital Receiver: First Results on Sensitivity, Dynamic Range and Instantaneous Bandwidth Measurements. , 2019, , .		3
117	Sparsity based off-grid blind sensor calibration. , 2019, 84, 80-92.		3
118	Steklov regularization and trajectory methods for univariate global optimization. Journal of Global Optimization, 2020, 76, 91-120.	1.1	3
119	Synthetic TEC Mapping with Kriging and Random Field Priors. , 2007, , .		2
120	Theoretical Limits and a Practical Estimator for Joint Estimation of Respiration and Heartbeat Rates Using UWB Impulse Radio. , 2007, , .		2
121	Ionospheric Total Electron Content Estimation Using IONOLAB Method. , 2007, , .		2
122	Efficient computation of joint fractional Fourier domain signal representation. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2008, 25, 765.	0.8	2
123	Particle swarm optimization based channel identification in cross-ambiguity domain. , 2010, , .		2
124	Optimization of F2 layer parameters using IRI-Plas model and IONOLAB Total Electron Content. , 2011, , .		2
125	Space weather activities of IONOLAB group using TNPGN GPS Network. , 2011, , .		2
126	Multipath channel identification by using global optimization in ambiguity function domain. Signal Processing, 2011, 91, 2647-2660.	2.1	2

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127	Space-time interpolation and automatic mapping of TEC using TNPNGN-active. , 2011, , .		2
128	Optimization of F2 layer parameters using IRI-Plas and IONOLAB-TEC. , 2011, , .		2
129	Stochastic signal design on the downlink of a multiuser communications system. , 2012, , .		2
130	Stochastic signaling in the presence of channel state information uncertainty. , 2013, 23, 635-645.		2
131	“Backward Differential Flow” May Not Converge to a Global Minimizer of Polynomials. Journal of Optimization Theory and Applications, 2015, 167, 401-408.	0.8	2
132	Dynamo equation solution using Finite Volume Method for midlatitude ionosphere. Geodesy and Geodynamics, 2018, 9, 425-431.	1.0	2
133	Compressive Digital Receiver: First hardware implementation results. , 2018, , .		2
134	Multi-Task Learning Based Joint Pulse Detection and Modulation Classification. , 2019, , .		2
135	Wide-band maximum likelihood direction finding by using tree-structured EM algorithm. , 0, , .		1
136	Efficient computation of the ambiguity function and the Wigner distribution on arbitrary line segments. , 0, , .		1
137	An efficient algorithm to extract components of a composite signal. , 0, , .		1
138	High resolution time-frequency analysis by fractional domain warping. , 0, , .		1
139	Generalized time-bandwidth product optimal short-time fourier transformation. , 2002, , .		1
140	Mode separation and direction of arrival estimation in HF links. Radio Science, 2003, 38, n/a-n/a.	0.8	1
141	Adaptive tracking of narrowband HF channel response. Radio Science, 2003, 38, n/a-n/a.	0.8	1
142	Incorporating Doppler velocity measurement for track initiation and maintenance. , 2006, , 113.		1
143	Performance analysis of Cross Ambiguity Function “ Direction Finding technique in multipath environments. , 2008, , .		1
144	A novel technique for a linear system of equations applied to channel equalization. , 2009, , .		1

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145	Dipole source reconstruction of brain signals by using particle swarm optimization. , 2009, , .		1
146	Investigation of lithosphere-ionosphere coupling using total electron content. , 2009, , .		1
147	A study of Lithosphere-ionosphere coupling using TUSAGA active TEC estimates. , 2010, , .		1
148	Effects of signal randomization on performance of binary communications systems. , 2010, , .		1
149	A particle swarm optimization based SAR motion compensation algorithm for target image reconstruction. , 2010, , .		1
150	Determining F2 layer parameters via optimization using IRI model and IONOLAB TEC estimations. , 2011, , .		1
151	Spatio-temporal interpolation of ionospheric TEC data. , 2011, , .		1
152	Recovery of sparse perturbations in Least Squares problems. , 2011, , .		1
153	Effects of Channel State Information Uncertainty on the Performance of Stochastic Signaling. , 2011, , .		1
154	Ultra-Wideband orthogonal pulse shape set design by using Hermite-Gaussian functions. , 2012, , .		1
155	Lossless polar compression of q-ary sources. , 2013, , .		1
156	AM/FM signal estimation with micro-segmentation and polynomial fit. Signal, Image and Video Processing, 2014, 8, 399-413.	1.7	1
157	Analysis of sparsity based joint SAR image reconstruction and autofocus techniques. , 2015, , .		1
158	SAR image reconstruction with joint off-grid target and phase error corrections. , 2015, , .		1
159	Sparsity based robust Stretch Processing. , 2015, , .		1
160	Maximization of average number of correctly received symbols over multiple channels in the presence of idle periods. , 2016, 54, 95-118.		1
161	Joint multi-emitter signal seperation and angle of arrival estimation via variational mode decomposition. , 2017, , .		1
162	Fast and Robust Solution Techniques for Large Scale Linear System of Equations. , 2019, , .		1

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163	Compressive sensing-based robust off-the-grid stretch processing. IET Radar, Sonar and Navigation, 2017, 11, 1730-1735.	0.9	1
164	A Method for Automatic Scaling of Ionograms and Electron Density Reconstruction. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-11.	2.7	1
165	A synthetic aperture imaging system using surface wave modes. , 0, , .		0
166	Regressor based adaptive infinite impulse response filtering. , 0, , .		0
167	A theoretical investigation on exact blind channel and input sequence estimation. , 0, , .		0
168	Input sequence estimation and blind channel identification in HF communication. , 0, , .		0
169	QR-RLS algorithm for error diffusion of color images. Optical Engineering, 2000, 39, 2860.	0.5	0
170	A new approach to time-frequency localized signal design. , 2002, , .		0
171	Model based comparison of basis functions and reconstruction algorithms in computerized ionospheric tomography. , 0, , .		0
172	Performance Improvement of Track Initiation Algorithms with the Incorporation of Doppler Velocity Measurement. , 2006, , .		0
173	Detection of Gamma Responses in EEG Signals. , 0, , .		0
174	Simulation of Real Beam Ground Mapping Mode of a Pulsed Radar. , 0, , .		0
175	A new multipath channel parameter estimation technique using swarm intelligence. , 2009, , .		0
176	Randomized and Rank Based Differential Evolution. , 2009, , .		0
177	Polar compressive sampling: A novel technique using Polar codes. , 2010, , .		0
178	Application of Fractional Fourier Transform to finite difference time domain method. , 2010, , .		0
179	Compressive sampling and adaptive multipath estimation. , 2010, , .		0
180	Signal denoising by piecewise continuous polynomial fitting. , 2010, , .		0

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181	Compressed sensing on ambiguity function domain for high resolution detection. , 2010, , .		0
182	A novel method for signal component incision in the time-frequency plane. , 2010, , .		0
183	Parameter estimation for synthetic TEC surfaces by using Particle Swarm Optimization. , 2012, , .		0
184	Real time noise-cancellation using ICA, PSO and PE. , 2012, , .		0
185	SAR image reconstruction by EMMP algorithm. , 2012, , .		0
186	Empirical Mode Decomposition aided by adaptive low pass filtering. , 2012, , .		0
187	Piecewise constant line fitting on noisy ramped signals by Particle Swarm Optimization. , 2012, , .		0
188	Compressive sensing based target detection in delay-Doppler radars. , 2013, , .		0
189	Remote sensing and 2-D imaging of ionosphere by IONOLAB group. , 2014, , .		0
190	Investigation of short-period ionospheric variation over Turkey. , 2014, , .		0
191	A recursive way for sparse reconstruction of parametric spaces. , 2014, , .		0
192	Optimal stochastic design for multi-parameter estimation problems. , 2014, , .		0
193	A recursive approach to reconstruction of sparse signals. , 2014, , .		0
194	FIR filter design by iterative convex relaxations with rank refinement. , 2014, , .		0
195	Computation of Fresnel integral by Fractional Fourier Transform methods. , 2015, , .		0
196	Maximization of correct decision probability via channel switching over Rayleigh fading channels. , 2016, , .		0
197	Bandwidth selection for kernel density estimation using Fourier domain constraints. IET Signal Processing, 2016, 10, 280-283.	0.9	0
198	Direct positioning in synchronous and asynchronous visible light systems. , 2017, , .		0

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199	Off-Grid sparse blind sensor calibration. , 2018, , .		0
200	Ionogram scaling using Hidden Markov Models. , 2018, , .		0
201	Compressive Digital Receiver: First Performance Measurements. , 2019, , .		0
202	NVIS HF signal propagation in ionosphere using calculus of variations. Geodesy and Geodynamics, 2019, 10, 72-76.	1.0	0
203	Sub-band equalization of modulated wideband converter for improved dynamic range performance. , 2017, , .		0