

# Lauri Anttila

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/800238/publications.pdf>

Version: 2024-02-01

129  
papers

3,582  
citations

304743

22  
h-index

206112

48  
g-index

130  
all docs

130  
docs citations

130  
times ranked

1947  
citing authors

#	ARTICLE	IF	CITATIONS
1	Widely linear digital self-interference cancellation in direct-conversion full-duplex transceiver. IEEE Journal on Selected Areas in Communications, 2014, 32, 1674-1687.	14.0	291
2	Full-Duplex Transceiver System Calculations: Analysis of ADC and Linearity Challenges. IEEE Transactions on Wireless Communications, 2014, 13, 3821-3836.	9.2	281
3	Recent advances in antenna design and interference cancellation algorithms for in-band full duplex relays. , 2015, 53, 91-101.		232
4	Circularity-Based I/Q Imbalance Compensation in Wideband Direct-Conversion Receivers. IEEE Transactions on Vehicular Technology, 2008, 57, 2099-2113.	6.3	221
5	Full-duplex mobile device: pushing the limits. , 2016, 54, 80-87.		179
6	Full-Duplex OFDM Radar With LTE and 5G NR Waveforms: Challenges, Solutions, and Measurements. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 4042-4054.	4.6	160
7	Joint Mitigation of Power Amplifier and I/Q Modulator Impairments in Broadband Direct-Conversion Transmitters. IEEE Transactions on Microwave Theory and Techniques, 2010, 58, 730-739.	4.6	150
8	Analysis of Oscillator Phase-Noise Effects on Self-Interference Cancellation in Full-Duplex OFDM Radio Transceivers. IEEE Transactions on Wireless Communications, 2014, 13, 2977-2990.	9.2	138
9	Frequency-Selective I/Q Mismatch Calibration of Wideband Direct-Conversion Transmitters. IEEE Transactions on Circuits and Systems II: Express Briefs, 2008, 55, 359-363.	3.0	131
10	Cancellation of power amplifier induced nonlinear self-interference in full-duplex transceivers. , 2013, , .		110
11	Advanced digital signal processing techniques for compensation of nonlinear distortion in wideband multicarrier radio receivers. IEEE Transactions on Microwave Theory and Techniques, 2006, 54, 2356-2366.	4.6	92
12	Digital Predistortion for Hybrid MIMO Transmitters. IEEE Journal on Selected Topics in Signal Processing, 2018, 12, 445-454.	10.8	91
13	Adaptive Nonlinear RF Cancellation for Improved Isolation in Simultaneous Transmit&#x2013;Receive Systems. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 2299-2312.	4.6	66
14	Adaptive Nonlinear Digital Self-Interference Cancellation for Mobile Inband Full-Duplex Radio: Algorithms and RF Measurements. , 2015, , .		63
15	Frequency Response Mismatches in 4-channel Time-Interleaved ADCs: Analysis, Blind Identification, and Correction. IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 2268-2279.	5.4	56
16	Nonlinear self-interference cancellation in MIMO full-duplex transceivers under crosstalk. Eurasip Journal on Wireless Communications and Networking, 2017, 2017, .	2.4	55
17	Modeling and efficient cancellation of nonlinear self-interference in MIMO full-duplex transceivers. , 2014, , .		51
18	Piecewise Digital Predistortion for mmWave Active Antenna Arrays: Algorithms and Measurements. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 4000-4017.	4.6	47

#	ARTICLE	IF	CITATIONS
19	Blind Compensation of Frequency-Selective I/Q Imbalances in Quadrature Radio Receivers: Circularity-Based Approach. , 2007, , .		42
20	Modeling and dynamic cancellation of TX-RX leakage in FDD transceivers. , 2013, , .		37
21	Blind Moment Estimation Techniques for I/Q Imbalance Compensation in Quadrature Receivers. , 2006, , .		36
22	Digital Predistortion for Multiuser Hybrid MIMO at mmWaves. IEEE Transactions on Signal Processing, 2020, 68, 3603-3618.	5.3	36
23	Advanced self-interference cancellation and multiantenna techniques for full-duplex radios. , 2013, , .		32
24	Analysis, Blind Identification, and Correction of Frequency Response Mismatch in Two-Channel Time-Interleaved ADCs. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 1721-1734.	4.6	31
25	Digital self-interference cancellation under nonideal RF components: Advanced algorithms and measured performance. , 2015, , .		29
26	Channel Estimation and Equalization in Multiuser Uplink OFDMA and SC-FDMA Systems Under Transmitter RF Impairments. IEEE Transactions on Vehicular Technology, 2016, 65, 82-99.	6.3	29
27	Frequency-Selective Digital Predistortion for Unwanted Emission Reduction. IEEE Transactions on Communications, 2015, 63, 254-267.	7.8	28
28	Multibeam Design for Joint Communication and Sensing in 5G New Radio Networks. , 2020, , .		28
29	Digital Suppression of Power Amplifier Spurious Emissions at Receiver Band in FDD Transceivers. IEEE Signal Processing Letters, 2014, 21, 69-73.	3.6	26
30	Reference receiver based digital self-interference cancellation in MIMO full-duplex transceivers. , 2014, , .		26
31	Digital Interpolating Phase Modulator for Wideband Outphasing Transmitters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 705-715.	5.4	26
32	Gradient-Adaptive Spline-Interpolated LUT Methods for Low-Complexity Digital Predistortion. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 336-349.	5.4	26
33	Decorrelation-Based Concurrent Digital Predistortion With a Single Feedback Path. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 280-293.	4.6	25
34	A 1.5-1.9-GHz All-Digital Tri-Phasing Transmitter With an Integrated Multilevel Class-D Power Amplifier Achieving 100-MHz RF Bandwidth. IEEE Journal of Solid-State Circuits, 2019, 54, 1517-1527.	5.4	25
35	13.5 A 0.35-to-2.6GHz multilevel outphasing transmitter with a digital interpolating phase modulator enabling up to 400MHz instantaneous bandwidth. , 2017, , .		24
36	Neural-Network-Based Digital Predistortion for Active Antenna Arrays Under Load Modulation. IEEE Microwave and Wireless Components Letters, 2020, 30, 843-846.	3.2	22

#	ARTICLE	IF	CITATIONS
37	Low-Complexity Subband Digital Predistortion for Spurious Emission Suppression in Noncontiguous Spectrum Access. IEEE Transactions on Microwave Theory and Techniques, 2016, 64, 3501-3517.	4.6	21
38	Passive Intermodulation in Simultaneous Transmit-Receive Systems: Modeling and Digital Cancellation Methods. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 3633-3652.	4.6	21
39	Digital Mitigation of Transmitter-Induced Receiver Desensitization in Carrier Aggregation FDD Transceivers. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 3608-3623.	4.6	20
40	High-Accuracy Radio Sensing in 5G New Radio Networks: Prospects and Self-Interference Challenge. , 2019, , .		19
41	In-Band Full-Duplex Radar-Communication System. IEEE Systems Journal, 2021, 15, 1086-1097.	4.6	18
42	Reduced-complexity power amplifier linearization for carrier aggregation mobile transceivers. , 2014, , .		17
43	Reduced-complexity digital predistortion for massive MIMO. , 2017, , .		17
44	Digital Predistortion in Large-Array Digital Beamforming Transmitters. , 2018, , .		17
45	Full-Duplexing With SDR Devices: Algorithms, FPGA Implementation, and Real-Time Results. IEEE Transactions on Wireless Communications, 2021, 20, 2205-2220.	9.2	17
46	Recursive learning-based joint digital predistorter for power amplifier and I/Q modulator impairments. International Journal of Microwave and Wireless Technologies, 2010, 2, 173-182.	1.9	16
47	Nonlinear Digital Cancellation in Full-Duplex Devices Using Spline-Based Hammerstein Model. , 2018, , .		16
48	On Antenna Array Out-of-Band Emissions. IEEE Wireless Communications Letters, 2019, 8, 1653-1656.	5.0	16
49	Modeling and Cancellation of Self-Interference in Full-Duplex Radio Transceivers: Volterra Series-Based Approach. , 2018, , .		15
50	Mobile transmitter digital predistortion: Feasibility analysis, algorithms and design exploration. , 2013, , .		14
51	Augmented Volterra predistortion for the joint mitigation of power amplifier and I/Q modulator impairments in wideband flexible radio. , 2013, , .		14
52	Digital predistortion for mitigating spurious emissions in spectrally agile radios. , 2016, 54, 60-69.		14
53	Cascaded Spline-Based Models for Complex Nonlinear Systems: Methods and Applications. IEEE Transactions on Signal Processing, 2021, 69, 370-384.	5.3	14
54	Beamforming and Waveform Optimization for OFDM-based Joint Communications and Sensing at mm-Waves. , 2020, , .		14

#	ARTICLE	IF	CITATIONS
55	Advanced Receiver Design for Mitigating Multiple RF Impairments in OFDM Systems: Algorithms and RF Measurements. Journal of Electrical and Computer Engineering, 2012, 2012, 1-16.	0.9	13
56	2-channel Time-Interleaved ADC frequency response mismatch correction using adaptive I/Q signal processing. , 2013, , .		12
57	Modeling and Joint Mitigation of TX and RX Nonlinearity-Induced Receiver Desensitization. IEEE Transactions on Microwave Theory and Techniques, 2017, 65, 2427-2442.	4.6	12
58	Frequency-Domain Digital Predistortion for OFDM. IEEE Microwave and Wireless Components Letters, 2021, 31, 816-818.	3.2	12
59	Linearity Challenges of LTE-Advanced Mobile Transmitters: Requirements and Potential Solutions. , 2017, 55, 170-179.		11
60	OFDM Radar with LTE Waveform: Processing and Performance. , 2019, , .		11
61	Mixture of Experts Approach for Piecewise Modeling and Linearization of RF Power Amplifiers. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 380-391.	4.6	11
62	Low-Complexity Digital Predistortion for Reducing Power Amplifier Spurious Emissions in Spectrally-Agile Flexible Radio. , 2014, , .		10
63	Sub-band digital predistortion for noncontiguous transmissions: Algorithm development and real-time prototype implementation. , 2015, , .		10
64	Class D CMOS power amplifier with on/off logic for a multilevel outphasing transmitter. , 2016, , .		10
65	Efficient Mitigation of Frequency-Selective I/Q Imbalance in OFDM Receivers. , 2008, , .		9
66	A blind frequency response mismatch correction algorithm for 4-channel Time-Interleaved ADC. , 2014, , .		9
67	Digital Cancellation of Passive Intermodulation in FDD Transceivers. , 2018, , .		9
68	Digital Predistortion for 5G Small Cell: GPU Implementation and RF Measurements. Journal of Signal Processing Systems, 2020, 92, 475-486.	2.1	9
69	Advanced architectures for self-interference cancellation in full-duplex radios: Algorithms and measurements. , 2016, , .		8
70	Impact of received signal on self-interference channel estimation and achievable rates in in-band full-duplex transceivers. , 2014, , .		7
71	Low power implementation of digital predistortion filter on a heterogeneous application specific multiprocessor. , 2014, , .		7
72	Digital correction of frequency response mismatches in 2-channel time-interleaved ADCs using adaptive I/Q signal processing. Analog Integrated Circuits and Signal Processing, 2015, 82, 543-555.	1.4	7

#	ARTICLE	IF	CITATIONS
73	Behavioral Modeling of Power Amplifiers With Modern Machine Learning Techniques. , 2019, , .		7
74	Active RF cancellation of nonlinear TX leakage in FDD transceivers. , 2016, , .		6
75	Parallel Digital Predistortion Design on Mobile GPU and Embedded Multicore CPU for Mobile Transmitters. Journal of Signal Processing Systems, 2017, 89, 417-430.	2.1	6
76	Gradient-based blind iterative techniques for I/Q imbalance compensation in digital radio receivers. , 2007, , .		5
77	Some radio implementation challenges in 3G-LTE context. , 2007, , .		5
78	Digital pre-distortion of power amplifier impairments in spectrally agile transmissions. , 2012, , .		5
79	Adaptive Nonlinear Digital Self-Interference Cancellation for Mobile Inband Full-Duplex Radio: Algorithms and RF Measurements. , 2014, , .		5
80	Mobile GPU accelerated digital predistortion on a software-defined mobile transmitter. , 2015, , .		5
81	Model-based design and implementation of an adaptive digital predistortion filter. , 2015, , .		5
82	A 30-dBm Class-D Power Amplifier with On/Off Logic for an Integrated Tri-Phasing Transmitter in 28-nm CMOS. , 2018, , .		5
83	Closed-Loop Sign Algorithms for Low-Complexity Digital Predistortion: Methods and Performance. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 1048-1062.	4.6	5
84	3.9G Radio Reception with SC-FDMA Waveforms Under I/Q Imbalance. , 2007, , .		4
85	Low-complexity, Multi Sub-band Digital Predistortion. Journal of Signal Processing Systems, 2018, 90, 1495-1505.	2.1	4
86	Tri-Phasing Modulation for Efficient and Wideband Radio Transmitters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 3085-3098.	5.4	4
87	Active RF Cancellation with Closed-Loop Adaptation for Improved Isolation in Full-Duplex Radios. , 2018, , .		4
88	A Class-D Tri-Phasing CMOS Power Amplifier With an Extended Marchand-Balun Power Combiner. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 1022-1034.	4.6	4
89	Mixture of Experts Approach for Behavioral Modeling of RF Power Amplifiers. , 2021, , .		4
90	Air-Induced Passive Intermodulation in FDD Networks: Modeling, Cancellation and Measurements. , 2021, , .		4

#	ARTICLE	IF	CITATIONS
91	Air-Induced PIM Cancellation in FDD MIMO Transceivers. IEEE Microwave and Wireless Components Letters, 2022, 32, 780-783.	3.2	4
92	Prototype implementation and RF performance measurements of DSP based transmitter I/Q imbalance calibration. , 2010, , .		3
93	Digital compensation and calibration of I/Q gain and phase imbalances. , 2011, , 475-501.		3
94	Asymmetric full-duplex with contiguous downlink carrier aggregation. , 2016, , .		3
95	Digital self-interference cancellation in inter-band carrier aggregation transceivers: Algorithm and digital implementation perspectives. , 2017, , .		3
96	Self-interference Modeling and Digital Cancellation Along with Full-Duplex Wireless System Analysis. , 2018, , .		3
97	Design and Implementation of a Wideband Digital Interpolating Phase Modulator RF Front-End. , 2018, , .		3
98	Spectral Effects of Discrete-Time Amplitude Levels in Digital-Intensive Wideband Radio Transmitters. , 2018, , .		3
99	Digital Cancellation of Passive Intermodulation: Method, Complexity and Measurements. , 2019, , .		3
100	Closed-Loop DPD for Digital MIMO Transmitters Under Antenna Crosstalk. , 2019, , .		3
101	Decorrelation-based Piecewise Digital Predistortion: Operating Principle and RF Measurements. , 2019, , .		3
102	A 2â€“5.5 GHz Beamsteering Receiver IC With 4-Element Vivaldi Antenna Array. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 3852-3860.	4.6	3
103	On the Power and Beam Dependency of Load Modulation in mmWave Active Antenna Arrays. , 2021, , .		3
104	Feasibility of Inband Full-Duplex Radio Transceivers with Imperfect RF Components: Analysis and Enhanced Cancellation Algorithms. , 2014, , .		3
105	Mobile transmitters I/Q imbalances in LTE uplink: Analysis and digital mitigation. , 2012, , .		2
106	Data-parallel implementation of reconfigurable digital predistortion on a mobile GPU. , 2015, , .		2
107	Flexible Digital Predistortion for Future Spectrally-Agile Waveforms and 5G Radio Systems. , 2015, , .		2
108	Low-Complexity, Sub-Band DPD with Sequential Learning: Novel Algorithms and WARPLab Implementation. , 2016, , .		2

#	ARTICLE	IF	CITATIONS
109	PAPR reduction and digital predistortion for non-contiguous waveforms with well-localized spectrum. , 2016, , .		2
110	Power Amplifier Effects and Peak-to-Average Power Mitigation. , 2017, , 461-489.		2
111	A Framework for Design and Implementation of Adaptive Digital Predistortion Systems. , 2019, , .		2
112	A Delay-Based LO Phase-Shifting Generator for a 2-5GHz Beamsteering Receiver in 28nm CMOS. , 2019, , .		2
113	MADS: A Framework for Design and Implementation of Adaptive Digital Predistortion Systems. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2019, 9, 712-722.	3.6	2
114	Inverse Covariance Matrix Estimation for Low-Complexity Closed-Loop DPD Systems: Methods and Performance. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 1474-1489.	4.6	2
115	Hybrid time/frequency domain compensator for RF impairments in OFDM systems. , 2011, , .		1
116	Multiuser frequency allocation with wideband power amplifier models. , 2014, , .		1
117	Digital predistortion for mitigating transmitter-induced receiver desensitization in carrier aggregation FDD transceivers. , 2016, , .		1
118	A High-Speed DSP Engine for First-Order Hold Digital Phase Modulation in 28-nm CMOS. IEEE Transactions on Circuits and Systems II: Express Briefs, 2018, 65, 1959-1963.	3.0	1
119	Performance comparison of constant envelope and zero-forcing precoders in multiuser massive MIMO. , 2018, , .		1
120	Linearizing Active Antenna Arrays: Digital Predistortion Method and Measurements. , 2019, , .		1
121	Closed-Loop Sign Algorithms for Low-Complexity Digital Predistortion. , 2020, , .		1
122	Quantized Polar Transmitters for Power Efficient Massive MIMO Systems. IEEE Wireless Communications Letters, 2021, 10, 859-863.	5.0	1
123	Digital Self-Interference Cancellation for Low-Cost Full-Duplex Radio Devices. , 2020, , 61-98.		1
124	Energy-Efficient Array Transmitters Through Outphasing and Over-the-Air Combining. , 2021, , .		1
125	Joint digital predistortion of I/Q modulator and power amplifier impairments. , 0, , 502-530.		0
126	Dynamic and Flexible Spectrum Use with Frequency Localized Waveforms under Transmitter Nonidealities. , 2015, , .		0



#	ARTICLE	IF	CITATIONS
127	Design space exploration and constrained multiobjective optimization for digital predistortion systems. , 2016, , .		0
128	Multilevel outphasing power amplifier system with a transmission-line power combiner. , 2016, , .		0
129	Multi component carrier, sub-band DPD and GNURadio implementation. , 2017, , .		0