Andreas Springer

List of Publications by Year
in descending order

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183	1,934	393982	414034
papers	citations	19 h-index	32 g-index

186	186	186	1681
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Cooperative Synchronization in Wireless Networks. IEEE Transactions on Signal Processing, 2014, 62, 2837-2849.	3.2	106
2	Spread spectrum communications using chirp signals. , 0, , .		96
3	Line-of-Sight Spatial Modulation for Indoor mmWave Communication at 60 GHz. IEEE Transactions on Wireless Communications, 2016, 15, 7373-7389.	6.1	84
4	RF system concepts for highly integrated RFICs for W-CDMA mobile radio terminals. IEEE Transactions on Microwave Theory and Techniques, 2002, 50, 254-267.	2.9	68
5	Space Shift Keying for LOS Communication at mmWave Frequencies. IEEE Wireless Communications Letters, 2015, 4, 121-124.	3.2	54
6	A robust ultra-broad-band wireless communication system using SAW chirped delay lines. IEEE Transactions on Microwave Theory and Techniques, 1998, 46, 2213-2219.	2.9	52
7	Cooperative Simultaneous Localization and Synchronization in Mobile Agent Networks. IEEE Transactions on Signal Processing, 2017, 65, 3587-3602.	3.2	52
8	Performance of Generalized Spatial Modulation MIMO Over Measured 60GHz Indoor Channels. IEEE Transactions on Communications, 2018, 66, 133-148.	4.9	51
9	Transposition Errors in Diffusion-Based Mobile Molecular Communication. IEEE Communications Letters, 2017, 21, 1973-1976.	2.5	50
10	A wireless spread-spectrum communication system using SAW chirped delay lines. IEEE Transactions on Microwave Theory and Techniques, 2001, 49, 754-760.	2.9	48
11	A different look on cyclic prefix for SC/FDE. , 0, , .		46
12	Receive Spatial Modulation for LOS mmWave Communications Based on TX Beamforming. IEEE Communications Letters, 2017, 21, 921-924.	2.5	44
13	A Comparative Analysis of Adaptive Digital Predistortion Algorithms for Multiple Antenna Transmitters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 1412-1420.	3.5	43
14	Variable- N_{u} Generalized Spatial Modulation for Indoor LOS mmWave Communication: Performance Optimization and Novel Switching Structure. IEEE Transactions on Communications, 2017, 65, 2625-2640.	4.9	36
15	Digital signal processing for reducing the effects of RF imperfections in radio devices — An overview. , 2010, , .		34
16	Wireless identification and sensing using surface acoustic wave devices. Mechatronics, 1999, 9, 745-756.	2.0	29
17	Ultra-Wideband Transceivers for Cochlear Implants. Eurasip Journal on Advances in Signal Processing, 2005, 2005, 1.	1.0	27
18	Low-Complex Synchronization Algorithms for Embedded Wireless Sensor Networks. IEEE Transactions on Instrumentation and Measurement, 2015, 64, 1032-1042.	2.4	25

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19	Design of Application-Specific Architectures for Networked Labs-on-Chips. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 193-202.	1.9	24
20	Combined Equalization for Uplink MC-CDMA in Rayleigh Fading Channels. IEEE Transactions on Communications, 2005, 53, 1609-1614.	4.9	23
21	Novel SINR-to-CQI Mapping Maximizing the Throughput in HSDPA. , 2007, , .		23
22	The advantages of a known sequence versus cyclic prefix in a SC/FDE system. , 0, , .		22
23	Implementation and Performance of DSP-Oriented Feedforward Power Amplifier Linearizer. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 409-425.	3.5	22
24	Automatic Packing Mechanism for Simplification of the Scheduling in Profinet IRT. IEEE Transactions on Industrial Informatics, 2016, 12, 1822-1831.	7.2	20
25	Life cycle of wireless sensor nodes in industrial environments. , 2017, , .		20
26	Efficient analysis of power consumption behaviour of embedded wireless IoT systems. , 2017, , .		19
27	Energy-efficient and reliable wireless sensor networks - an extension to IEEE 802.15.4e. Eurasip Journal on Wireless Communications and Networking, 2014, 2014, .	1.5	18
28	Timestamp Free Synchronization With Sub-Tick Accuracy in the Presence of Discrete Clocks. IEEE Transactions on Wireless Communications, 2017, 16, 771-783.	6.1	18
29	A distributed particle-based belief propagation algorithm for cooperative simultaneous localization and synchronization. , 2013, , .		17
30	New approach for improvements and comparison of high performance real-time ethernet networks. , 2014, , .		16
31	Analysis of a Properness-Based Blind Adaptive I/Q Filter Mismatch Compensation. IEEE Transactions on Wireless Communications, 2016, 15, 781-793.	6.1	16
32	A Nonlinear Switched State-Space Model for Capacitive RF DACs. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 1342-1353.	3.5	16
33	Passive droplet control in microfluidic networks: A survey and new perspectives on their practical realization. Nano Communication Networks, 2019, 19, 33-46.	1.6	16
34	Cooperative simultaneous localization and synchronization: A distributed hybrid message passing algorithm. , 2013, , .		15
35	A Novel Digital-Intensive Hybrid Polar-I/Q RF Transmitter Architecture. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 4390-4403.	3.5	15
36	Development of a low-cost 35 GHz radar sensor. Annales Des Telecommunications/Annals of Telecommunications, 1997, 52, 219-223.	1.6	13

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37	Pulse delay techniques for PPM impulse radio transmitters. , 0, , .		13
38	An Adaptive Digital Front-End for Multimode Wireless Receivers. IEEE Transactions on Circuits and Systems II: Express Briefs, 2008, 55, 349-353.	2.2	13
39	Adaptive digital pre-distortion for multiple antenna transmitters. , 2013, , .		13
40	Sustainable energy harvesting for robust wireless sensor networks in industrial applications. , 2015, , .		13
41	Digitally-intensive transceivers for future mobile communicationsâ€"emerging trends and challenges. Elektrotechnik Und Informationstechnik, 2018, 135, 30-39.	0.7	13
42	A flexible multiband frontend for software radios using high IF and active interference cancellation. , 0, , .		12
43	Time variant channel estimation using a modified complex exponential basis expansion model in LTE-OFDM systems. , 2010, , .		12
44	TDMA proposals for wireless sensor networks for highly reliable and energy efficient data collection in an industrial application. , 2012, , .		12
45	A Discrete Model for Networked Labs-on-Chips. , 2017, , .		12
46	A 60-GHz MMIC-compatible TED-oscillator. , 1995, 5, 114-116.		11
47	Concept for an adaptive digital front-end for multi-mode wireless receivers. , 2008, , .		11
48	VABS - A new approach for Real Time Ethernet. , 2013, , .		11
49	Timing synchronization of low power wireless sensor nodes with largely differing clock frequencies and variable synchronization intervals. , 2015, , .		11
50	Design of a Fully Integrated Two-Stage Watt-Level Power Amplifier Using 28-nm CMOS Technology. IEEE Transactions on Microwave Theory and Techniques, 2016, 64, 188-199.	2.9	11
51	On the Impact of Transposition Errors in Diffusion-Based Channels. IEEE Transactions on Communications, 2019, 67, 364-374.	4.9	11
52	A comparison of an OFDM system and a single carrier system using frequency domain equalization. European Transactions on Telecommunications, 2002, 13, 519-530.	1.2	10
53	The Impact of RF-Impairments and Automatic Gain Control on UMTS-HSDPA-Throughput Performance. , 2006, , .		10
54	On the Spectral Regrowth in Polar Transmitters. , 2006, , .		10

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55	A wireless sensor network using energy harvesting for agricultural machinery. Elektrotechnik Und Informationstechnik, 2010, 127, 39-46.	0.7	10
56	Synchronized industrial wireless sensor network with IEEE 802.11 ad hoc data transmission. , 2013, , .		10
57	Optimizing the Identification of Digital Predistorters for Improved Power Amplifier Linearization Performance. IEEE Transactions on Circuits and Systems II: Express Briefs, 2014, 61, 671-675.	2.2	10
58	Cooperative simultaneous localization and synchronization: Toward a low-cost hardware implementation. , 2014, , .		10
59	An environmentally powered wireless sensor node for high precision temperature measurements. , 2017, , .		10
60	Information Encoding in Droplet-Based Microfluidic Systems. , 2019, , .		10
61	Iterative channel estimation and turbo equalization for time-varying channels in a coded OFDM-LTE system for 16-QAM and 64-QAM. , 2010, , .		9
62	A power measurement system for accurate energy profiling of embedded wireless systems. , 2014, , .		9
63	Addressing multiple nodes in networked labs-on-chips without payload re-injection. , 2017, , .		9
64	Optimization of the Cut-Off Rate of Generalized Spatial Modulation with Transmit Precoding. IEEE Transactions on Communications, 2018, , 1-1.	4.9	9
65	LTE-Downlink Performance in the Presence of RF-Impairments. , 2007, , .		8
66	TWECIS: A testbed for wireless energy constrained industrial sensor actuator networks. , 2014, , .		8
67	Design and performance of a SAW ladder-type filter at 3.15 GHz using SAW mass-production technology [wireless LANs]. IEEE Transactions on Microwave Theory and Techniques, 1999, 47, 2312-2316.	2.9	7
68	An Interference Cancellation Technique for the Use in Multiband Software Radio Frontend Design. , 2000, , .		7
69	Iterative detection for unique word OFDM. , 2014, , .		7
70	Verification of networked Labs-on-Chip architectures. , 2017, , .		7
71	A highly reconfigurable RF-DPLL phase modulator for polar transmitters in multi-band/multi-standard cellular RFICs. , 2017, , .		7
72	Linear complex iterative frequency estimation of sparse and non-sparse pulse and point processes. , 2017, , .		7

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73	Modeling of an IQ RF-DAC with error-free LO-switching. , 2018, , .		7
74	<title>Wireless SAW sensors for surface and subsurface sensing applications</title>. , 2001, 4491, 358.		6
75	Analysis of a Two-Bit Frequency Discriminator in an All Digital Phase Locked Loop for RF-Modulation and RF-Frequency Synthesis. , 2006, , .		6
76	TDMA approach for efficient data collection in wireless sensor networks. , 2011, , .		6
77	Equalization Algorithms for MIMO Communication Systems Based on Factor Graphs. , 2011, , .		6
78	Factor-Graph-Based Soft-Input Soft-Output Detection for Frequency-Selective MIMO Channels. IEEE Communications Letters, 2012, 16, 1624-1627.	2.5	6
79	Low-Complexity Detection for Generalized Pre-Coding Aided Spatial Modulation. , 2015, , .		6
80	Design, implementation, and evaluation of secure communication for line current differential protection systems over packet switched networks. International Journal of Critical Infrastructure Protection, 2018, 23, 68-78.	2.9	6
81	An IQ Image Cancellation Method for Digital-Intensive Transmitters. , 2019, , .		6
82	Optimal tracking of doubly-selective radio channels for OFDM based modern wireless systems. Physical Communication, 2019, 35, 100739.	1.2	6
83	Analysis of Spectral Degradation and Error Compensation in 5G NR Digital Polar Transmitters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 2719-2729.	3.5	6
84	A single-chip Si-bipolar 1.6-GHz VCO with integrated-bias network. IEEE Transactions on Microwave Theory and Techniques, 2000, 48, 203-205.	2.9	5
85	A class-E GSM-handset PA with increased efficiency. , 0, , .		5
86	Characterization of LTCC substrate up to 100 GHz. , 2008, , .		5
87	Mean field message passing for cooperative simultaneous ranging and synchronization. , 2013, , .		5
88	Improving IEEE 802.15.4e LLDN performance by relaying and extension of combinatorial testing. , 2014, , .		5
89	Passive localization and synchronization in the presence of affine clocks. , 2015, , .		5
90	Improving profinet IRT frame packing using ethernet control characters. , 2015, , .		5

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91	LO Generation With a Phase Interpolator Digital-to-Time Converter. IEEE Transactions on Microwave Theory and Techniques, 2017, , 1-8.	2.9	5
92	A Highly Reconfigurable RF-DPLL Phase Modulator for Polar Transmitters in Cellular RFICs. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 2618-2627.	2.9	5
93	Off-Chip-Controlled Droplet-on-Demand Method for Precise Sample Handling. ACS Omega, 2020, 5, 9684-9689.	1.6	5
94	Gunn effect in MESFET-like structures. Electronics Letters, 1992, 28, 980-981.	0.5	4
95	Composite anode contact for planar transferred electron devices. , 1993, 3, 180-181.		4
96	Impact of IF-SAW filtering on the performance of a W-CDMA receiver. , 0, , .		4
97	RF microelectronics for W-CDMA mobile communication systems. Electronics and Communication Engineering Journal, 2002, 14, 92-100.	0.6	4
98	Model Based Wireless SAW Tag Temperature Measurement. , 0, , .		4
99	Throughput enhancement by cancellation of synchronization and pilot channel for umts high speed downlink packet access. , 0, , .		4
100	HSDPA Performance Investigations related to RF-Impairments. , 2006, , .		4
101	DSP oriented implementation of a feedforward power amplifier linearizer. , 2009, , .		4
102	Improving time variant channel estimation for 3GPP LTE-downlink. , 2012, , .		4
103	Real-time data collection in a spatially extended TDMA-based wireless sensor network. , 2012, , .		4
104	Fix-Point Representation of a Properness-Based Algorithm for Blind I/Q Mismatch Compensation. , 2012, , .		4
105	Analysis of ΔΣ-synchronization in wireless sensor nodes. , 2015, , .		4
106	Accurate clock synchronization for power systems protection devices over packet switched networks. Computer Science - Research and Development, 2017, 32, 147-158.	2.7	4
107	Does Vector Gaussian Approximation After LMMSE Filtering Improve the LLR Quality?. IEEE Signal Processing Letters, 2017, 24, 1676-1680.	2.1	4
108	Concept for the coexistence of standard and Real-time Ethernet. , 2018, , .		4

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109	Approaching the Matched Filter Bound with Unique Word OFDM. , 2019, , .		4
110	Integrated Cooperative Synchronization for Wireless Sensor Networks. IEEE Wireless Communications Letters, 2019, 8, 701-704.	3.2	4
111	Using Channel State Information for Physical Tamper Attack Detection in OFDM Systems: A Deep Learning Approach. IEEE Wireless Communications Letters, 2021, 10, 1503-1507.	3.2	4
112	A Novel Enzymatic Microreactor: Towards Transforming the Pharmaceutical Industry. IFMBE Proceedings, 2020, , 303-308.	0.2	4
113	Comparison of switching principles in microfluidic bus networks. , 2018, , .		4
114	Accurate power-aware simulation of wireless sensor networks considering real-life application code. , 2010, , .		4
115	Design and evaluation of innovative protocols for LoRa. IET Wireless Sensor Systems, 2022, 12, 12-20.	1.3	4
116	Reconfigurable mixed-signal single-chip transmitter for multistandard-terminals. , 2005, , .		3
117	Distributed clock synchronization and ranging in time-variant wireless networks. , 2014, , .		3
118	A measurement method to mitigate temperature effects in nanometer CMOS RF power amplifiers. , 2014, , .		3
119	A circuit technique to compensate PVT variations in a 28 nm CMOS cascode power amplifier. , 2015, , .		3
120	A 15-bit 28nm CMOS fully-integrated 1.6W digital power amplifier for LTE IoT. , 2017, , .		3
121	Period estimation with linear complexity of sparse time varying point processes. , 2017, , .		3
122	Energy balanced routing for latency minimized wireless sensor networks. , 2018, , .		3
123	Smart Transducers in Distributed and Model-Driven Control Applications: Empowering Seamless Internet of Things Integration. IEEE Industrial Electronics Magazine, 2019, 13, 57-64.	2.3	3
124	Design and realization of flexible droplet-based lab-on-a-chip devices. Elektrotechnik Und Informationstechnik, 2020, 137, 113-120.	0.7	3
125	WSN Implementation of Cooperative Localization. , 2020, , .		3
126	Adaptive predistortion for amplifier linearization for UMTS terminals. , 0, , .		2

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127	Multi-Mode Receiver Design for Wireless Terminals. , 2007, , .		2
128	An efficient start-up circuitry for de-energized ultra-low power energy harvesting systems. , 2015, , .		2
129	Synchronization and delay estimation with sub-tick resolution. , 2015, , .		2
130	Performance of a partner selection algorithm in IEEE 802.15.4 based wireless sensor networks. , 2016, , .		2
131	Characterization and adaptive selection of radio channels for reliable and energy-efficient WSN. , 2016, , .		2
132	Calculation of optimum transmit power in an IEEE 802.15.4-based wireless sensor network employing cooperative relaying. , 2016, , .		2
133	Partner selection algorithms for improving the network lifetime and decreasing the overall transmit energy expenditure in a wireless sensor network. , 2016, , .		2
134	Error characterization of duty cycle estimation for sampled non-band-limited pulse signals with finite observation period. , 2016, , .		2
135	Poster Abstract: The TWECIS Testbed Architecture. , 2016, , .		2
136	A cross-layer approach for ultra-low-latency machine type communication. , 2017, , .		2
137	High resolution testbed for heterogenous industrial wireless sensor and actuator networks. , 2018, , .		2
138	Including real-life application code into power aware network simulation. , 2010, , .		2
139	An Adaptive Digital Front-End for Multi-mode Wireless Receivers. Integrated Circuits and Systems, 2009, , 249-270.	0.2	2
140	On the impact of timing mismatch and memory length on digital predistortion systems. , 2012, , .		2
141	A Novel Uniplanar Transition Coplanar Waveguide to Rectangular Waveguide. , 2001, , .		1
142	Highly integrated Si/SiGe RFIC's for 3G wideband-CDMA mobile radio terminals. , 0, , .		1
143	The effect of blockwise transmission on higher-order modulation schemes for SC/FDE. , 0, , .		1
144	Analysis and Measurement of Spurious Emission and Phase Noise Performance of an RF All-Digital Phase Locked Loop using a Frequency Discriminator. , 2007, , .		1

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145	On the Design of a Highly Digital Multimode UMTS/GNSS Receiver. , 2007, , .		1
146	Noise Reduction for SC/FDE Systems by Pre- and Post Processing. , 2007, , .		1
147	An ESD-protection-free monolithic harmonic filter for WLAN applications. , 2010, , .		1
148	Message passing methods for factor graph based MIMO detection. , 2011, , .		1
149	Equalization of MIMO-ISI channels based on Gaussian message passing in factor graphs. , 2012, , .		1
150	STEAM-Sim. , 2013, , .		1
151	Impact of Mobile Antenna Mismatch on Receive Antenna Diversity in Frequency-Flat Rayleigh Fading Channels. , 2013, , .		1
152	Digital pre-distortion for multiple antenna transmitters. , 2013, , .		1
153	Estimation of the harvestable power on wireless sensor nodes. , 2015, , .		1
154	Bit error probability of preprocessing aided spatial modulation based on MMSE precoding. , 2015, , .		1
155	Characterization and adaptive selection of radio channels for reliable and energy-efficient WSN. , 2016, , .		1
156	A comparison of cross-over and cross-talk canceling digital predistorters for multiple antenna transmitters. , 2017, , .		1
157	RSSI-based parameter estimation for rician fading environments on wireless sensor nodes. , 2017, , .		1
158	Adaptive Period Estimation For Sparse Point Processes. , 2018, , .		1
159	Optimum Sampling for Packet Assisted Round Trip Time Measurement. , 2019, , .		1
160	Mixture Density Networks for WSN Localization. , 2020, , .		1
161	Towards a Distributed Testbed for Wireless Embedded Devices for Industrial Applications. , 2021, , .		1
162	Combined Pre- and Post-Equalization for Uplink Time Division Duplex MC-CDMA in Fading Channels. , 2004, , 439-450.		1

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163	A Network and System Level Approach towards an Accurate Simulation of WSNs. Lecture Notes in Computer Science, 2012, , 17-24.	1.0	1
164	Extrinsic LLR Computation by the SISO LMMSE Detector: Four Different Approaches. Lecture Notes in Computer Science, 2015, , 529-536.	1.0	1
165	RSSI-Based Machine Learning with Pre-and Post-Processing for Cell-Localization in IWSNs. , 2021, , .		1
166	A wireless pressure-measurement system based on SAW transponder technique. , 0, , .		0
167	An Investigation of the Proximity Effect of Millimeter-Wave MMICs in Flip-Chip Configuration. , 2001, , .		0
168	Iterative combined decision feedback equalization and decoding for broadband wireless single carrier systems. , 0, , .		0
169	Mini Special Issue on the 2004 International Symposium on Signals, Systems, and Electronics (ISSSEâ€™04) in Linz, Austria. AEU - International Journal of Electronics and Communications, 2005, 59, 267.	1.7	0
170	Joint distortion compensation for a direct upconversion transmitter with impairments. , 2010, , .		0
171	Stochastic soft-input soft-output detection for intersymbol interference channels. , 2012, , .		0
172	BER Performance of Local Average Gain Combining with BPSK in Rayleigh Fading Channels. , 2014, , .		0
173	Hardware implementation of the SUMIS detector using high-level synthesis. , 2015, , .		0
174	Rethinking the Importance of Accurately Simulating the Runtimes of Firmware used in Wireless Sensor Networks. , 2015, , .		0
175	Performance Comparison of Information Encoding in Droplet-Based Microfluidic Systems. , 2016, , .		0
176	Advanced remote debugging of LoRa-enabled IoT sensor nodes. , 2017, , .		0
177	Remote controlled performance analysis of embedded wireless sensor networks. , 2017, , .		0
178	Estimation of Time Variant System Clock Period for Wireless Sensor Network Applications. , 2017, , .		0
179	A Novel Hybrid Polar-I/Q Modulation Method relaxing RF Phase Modulator Design Requirements. , 2018, , .		0
180	Dithering Concepts for Spur-Free Nonlinear DTC-Based Frequency Synthesizers. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, , 1-12.	3.5	0

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181	Practical Assessment of Payload- Header Switching in Microfluidic Networks. , 2021, , .		0
182	A Systematic Solution for the Problem of Spectral Degradation in Multiphase TX Architectures. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 384-388.	2.2	0
183	Location-based Trustworthiness of Wireless Sensor Nodes using Optical Localization. , 2020, , .		0