

Abhijit Chatterjee

List of Publications by Year in descending order

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papers

976
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times ranked

456
citing authors

#	ARTICLE	IF	CITATIONS
1	Signature Testing of Analog and RF Circuits: Algorithms and Methodology. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2007, 54, 1018-1031.	0.1	97
2	DSP-Driven Self-Tuning of RF Circuits for Process-Induced Performance Variability. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2010, 18, 305-314.	2.1	77
3	A New Self-Healing Methodology for RF Amplifier Circuits Based on Oscillation Principles. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2012, 20, 1835-1848.	2.1	39
4	A Power-Scalable Channel-Adaptive Wireless Receiver Based on Built-In Orthogonally Tunable LNA. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 946-957.	3.5	36
5	Alternate Testing of RF Transceivers Using Optimized Test Stimulus for Accurate Prediction of System Specifications. Journal of Electronic Testing: Theory and Applications (JETTA), 2005, 21, 323-339.	0.9	32
6	Environment-Adaptive Concurrent Comanding and Bias Control for Efficient Power-Amplifier Operation. IEEE Transactions on Circuits and Systems I: Regular Papers, 2011, 58, 607-618.	3.5	31
7	Signal Acquisition of High-Speed Periodic Signals Using Incoherent Sub-Sampling and Back-End Signal Reconstruction Algorithms. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2011, 19, 1125-1135.	2.1	27
8	Optimized Multitone Test Stimulus Driven Diagnosis of RF Transceivers Using Model Parameter Estimation. , 2011, , .		24
9	Process-Variation Tolerant Channel-Adaptive Virtually Zero-Margin Low-Power Wireless Receiver Systems. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2014, 33, 1764-1777.	1.9	21
10	Multidimensional Adaptive Power Management for Low-Power Operation of Wireless Devices. IEEE Transactions on Circuits and Systems II: Express Briefs, 2008, 55, 867-871.	2.2	20
11	Wideband Sparse Signal Acquisition With Dual-rate Time-Interleaved Undersampling Hardware and Multicoset Signal Reconstruction Algorithms. IEEE Transactions on Signal Processing, 2015, 63, 6486-6497.	3.2	18
12	Concurrent PAR and power amplifier adaptation for power efficient operation of WiMAX OFDM transmitters. , 2008, , .		17
13	A novel self-healing methodology for RF Amplifier circuits based on oscillation principles. , 2009, , .		17
14	Phase Distortion to Amplitude Conversion-Based Low-Cost Measurement of AM-AM and AM-PM Effects in RF Power Amplifiers. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2012, 20, 1602-1614.	2.1	17
15	Fault Detection and Automated Fault Diagnosis for Embedded Integrated Electrical Passives. Journal of Signal Processing Systems, 1999, 21, 265-276.	1.0	16
16	Low Cost EVM Testing of Wireless RF SoC Front-Ends Using Multitones. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2012, 31, 1088-1101.	1.9	16
17	Barrier Functions in Cascaded Controller: Safe Quadrotor Control. , 2020, , .		15
18	Low-Resolution DAC-Driven Linearity Testing of Higher Resolution ADCs Using Polynomial Fitting Measurements. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2013, 21, 454-464.	2.1	14

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19	System-Level Specification Testing Of Wireless Transceivers. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2008, 16, 263-276.	2.1	13
20	Guided Probabilistic Checksums for Error Control in Low-Power Digital Filters. IEEE Transactions on Computers, 2011, 60, 1313-1326.	2.4	13
21	Analog Sensor Based Testing of Phase-Locked Loop Dynamic Performance Parameters. , 2013, , .		13
22	Design of process variation tolerant radio frequency low noise amplifier. , 2008, , .		12
23	Adaptive testing of analog/RF circuits using hardware extracted FSM models. , 2016, , .		11
24	Automatic test stimulus generation for accurate diagnosis of RF systems using transient response signatures. , 2011, , .		10
25	Accurate signature driven power conscious tuning of RF systems using hierarchical performance models. , 2011, , .		10
26	Optimized wafer-probe and assembled package test design for analog circuits. ACM Transactions on Design Automation of Electronic Systems, 2005, 10, 303-329.	1.9	9
27	Real-time checking of linear control systems using analog checksums. , 2013, , .		9
28	Real-time DC motor error detection and control compensation using linear checksums. , 2016, , .		9
29	Test Enabled Process Tuning for Adaptive Baseband OFDM Processor. VLSI Test Symposium (VTS), Proceedings, IEEE, 2008, , .	1.0	8
30	Jitter Characterization of Pseudo-random Bit Sequences Using Incoherent Sub-sampling. , 2010, , .		8
31	Time Domain Characterization and Test of High Speed Signals Using Incoherent Sub-sampling. , 2011, , .		8
32	Orthogonally tunable inductorless RF LNA for adaptive wireless systems. , 2011, , .		8
33	Signature Driven Hierarchical Post-Manufacture Tuning of RF Systems for Performance and Power. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2015, 23, 342-355.	2.1	8
34	Enhanced Resolution Jitter Testing Using Jitter Expansion. VLSI Test Symposium (VTS), Proceedings, IEEE, 2007, , .	1.0	7
35	Adaptive Signal Scaling Driven Critical Path Modulation for Low Power Baseband OFDM Processors. , 2008, , .		7
36	Low-Cost Specification Based Testing of RF Amplifier Circuits using Oscillation Principles. Journal of Electronic Testing: Theory and Applications (JETTA), 2010, 26, 13-24.	0.9	7

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37	A High Throughput Multiplier Design Exploiting Input Based Statistical Distribution in Completion Delays. , 2013, , .		7
38	Atomic model learning: A machine learning paradigm for post silicon debug of RF/analog circuits. , 2014, , .		7
39	Targeting hardware trojans in mixed-signal circuits for security. , 2016, , .		7
40	Design of efficient analog physically unclonable functions using alternative test principles. , 2017, , .		7
41	eCloud: A Vision for the Evolution of the Edge-Cloud Continuum. Computer, 2021, 54, 24-33.	1.2	7
42	Safety Uncertainty in Control Barrier Functions using Gaussian Processes. , 2021, , .		7
43	Gaussian Control Barrier Functions: Safe Learning and Control. , 2020, , .		7
44	A Survey of Test Techniques for MCM Substrates. Journal of Electronic Testing: Theory and Applications (JETTA), 1997, 10, 27-38.	0.9	6
45	Environment and Process Adaptive Low Power Wireless Baseband Signal Processing Using Dual Real-Time Feedback. , 2009, , .		6
46	Optimized digital compatible pulse sequences for testing of RF front end modules. , 2010, , .		6
47	Periodic Jitter and Bounded Uncorrelated Jitter Decomposition Using Incoherent Undersampling. , 2013, , .		6
48	VAST: Post-Silicon VALidation and Diagnosis of RF/Mixed-Signal Circuits Using Signature Tests. , 2013, , .		6
49	High Resolution Pulse Propagation Driven Trojan Detection in Digital Logic: Optimization Algorithms and Infrastructure. , 2014, , .		6
50	On-line diagnosis and compensation for parametric failures in linear state variable circuits and systems using time-domain checksum observers. , 2017, , .		6
51	Concurrent built in test and tuning of beamforming MIMO systems using learning assisted performance optimization. , 2017, , .		6
52	Error Resilient Neuromorphic Networks Using Checker Neurons. , 2018, , .		6
53	Real-Time Error Detection in Nonlinear Control Systems Using Machine Learning Assisted State-Space Encoding. IEEE Transactions on Dependable and Secure Computing, 2021, 18, 576-592.	3.7	6
54	Adaptive Design for Performance-Optimized Robustness. Defect and Fault Tolerance in VLSI Systems, Proceedings of the IEEE International Symposium on, 2006, , .	0.0	5

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55	Guided Probabilistic Checksums for Error Control in Low Power Digital-Filters. , 2008, , .		5
56	Error resilient video encoding using Block-Frame Checksums. , 2010, , .		5
57	Adaptive RF Front-end Design via Self-discovery: Using Real-time Data to Optimize Adaptation Control. , 2013, , .		5
58	Concurrent error detection in nonlinear digital filters using checksum linearization and residue prediction. , 2015, , .		5
59	TRAP: Test Generation Driven Classification of Analog/RF ICs Using Adaptive Probabilistic Clustering Algorithm. , 2016, , .		5
60	Title is missing!. Journal of Signal Processing Systems, 1998, 18, 25-38.	1.0	4
61	Post-Manufacture Tuning for Nano-CMOS Yield Recovery Using Reconfigurable Logic. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2010, 18, 675-679.	2.1	4
62	RF substrates yield improvement using package-chip co-design and on-chip calibration. , 2010, , .		4
63	An adaptive class-E power amplifier with improvement in efficiency, reliability and process variation tolerance. , 2013, , .		4
64	Challenge Engineering and Design of Analog Push Pull Amplifier Based Physically Unclonable Function for Hardware Security. , 2015, , .		4
65	Incoherent Undersampling-Based Waveform Reconstruction Using a Time-Domain Zero-Crossing Metric. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2015, 23, 2357-2370.	2.1	4
66	Cross-Layer Control Adaptation for Autonomous System Resilience. , 2018, , .		4
67	Content-Aware Low-Complexity Object Detection for Tracking Using Adaptive Compressed Sensing. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2018, 8, 578-590.	2.7	4
68	Hierarchical Check Based Detection and Diagnosis of Sensor-Actuator Malfunction in Autonomous Systems: A Quadcopter Study. , 2019, , .		4
69	An Accurate DNA Sensing and Diagnosis Methodology Using Fabricated Silicon Nanopores. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2006, 53, 2377-2383.	0.1	3
70	Testing RF Components with Supply Current Signatures. , 2007, , .		3
71	Low-frequency test method for integrated RF substrates. , 2009, , .		3
72	Dynamic power modulation in baseband OFDM signal processor using application driven metrics: Image transmission and processing. , 2010, , .		3

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73	Jitter characterization of incoherently sub-sampled high-speed digital signals. , 2010, , .		3
74	Power Aware Post-manufacture Tuning of Analog Nanocircuits. , 2011, , .		3
75	A programmable BIST design for PLL static phase offset estimation and clock duty cycle detection. , 2013, , .		3
76	Low cost signal reconstruction based testing of RF components using incoherent undersampling. , 2013, , .		3
77	Automatic Test Stimulus Generation for Diagnosis of RF Transceivers Using Model Parameter Estimation. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2015, 23, 3114-3118.	2.1	3
78	Trojan detection in digital systems using current sensing of pulse propagation in logic gates. , 2016, , .		3
79	ReiNN: Efficient error resilience in artificial neural networks using encoded consistency checks. , 2018, , .		3
80	Mixed Signal Design Validation Using Reinforcement Learning Guided Stimulus Generation for Behavior Discovery. , 2019, , .		3
81	Hierarchical State Space Checks for Errors in Sensors, Actuators and Control of Nonlinear Systems: Diagnosis and Compensation. , 2019, , .		3
82	Characterization of Library Cells for Open-circuit Defect Exposure: A Systematic Methodology. , 2019, , .		3
83	Concurrent Stimulus and Defect Magnitude Optimization for Detection of Weakest Shorts and Opens in Analog Circuits. , 2016, , .		3
84	ALERA. ACM Transactions on Intelligent Systems and Technology, 2019, 10, 1-25.	2.9	3
85	SAT-ATPG Generated Multi-Pattern Scan Tests for Cell Internal Defects: Coverage Analysis for Resistive Opens and Shorts. , 2020, , .		3
86	Probabilistic Compensation for Digital Filters Using Pervasive Noise-Induced Operator Errors. VLSI Test Symposium (VTS), Proceedings, IEEE, 2007, , .	1.0	2
87	Low-Frequency and Low-Cost Test Methodology for Integrated RF Substrates. IEEE Transactions on Advanced Packaging, 2010, 33, 669-680.	1.7	2
88	A self-testable SiGe LNA and Built-in-Self-Test methodology for multiple performance specifications of RF amplifiers. , 2012, , .		2
89	Spectral Estimation Based Acquisition of Incoherently Under-sampled Periodic Signals: Application to Bandwidth Interleaving. , 2012, , .		2
90	One-Port Resonance-Based Test Technique for RF Interconnect and Filters Embedded in RF Substrates. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2013, 3, 236-246.	1.4	2

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91	Error Resilient Real-Time State Variable Systems for Signal Processing and Control. , 2014, , .		2
92	Real-time correction of dc servo motor and controller failures using analog checksums. , 2014, , .		2
93	Phase-locked loop design with SPO detection and charge pump trimming for reference spur suppression. , 2014, , .		2
94	Low cost high frequency signal synthesis: Application to RF channel interference testing. , 2015, , .		2
95	Checksum based error detection in linearized representations of non linear control systems. , 2016, , .		2
96	Digitally Assisted Built-In Tuning Using Hamming Distance Proportional Signatures in RF Circuits. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2016, 24, 2918-2931.	2.1	2
97	Error-Resilient Video Encoding Using Parallel Independent Signature Processing. IEEE Transactions on Circuits and Systems for Video Technology, 2017, 27, 1077-1090.	5.6	2
98	Encoded Check Driven Concurrent Error Detection in Particle Filters for Nonlinear State Estimation. , 2020, , .		2
99	Automatic Surrogate Model Generation and Debugging of Analog/Mixed-Signal Designs Via Collaborative Stimulus Generation and Machine Learning. , 2021, , .		2
100	Addressing Soft Error and Security Threats in DNNs Using Learning Driven Algorithmic Checks. , 2021, , .		2
101	Concurrent Error Detection in Embedded Digital Control of Nonlinear Autonomous Systems Using Adaptive State Space Checks. , 2020, , .		2
102	Feedback Driven Adaptive Power Management for Minimum Power Operation of Wireless Receivers. , 2007, , .		1
103	Real-Time, Content Aware Camera -- Algorithm -- Hardware Co-Adaptation for Minimal Power Video Encoding. , 2012, , .		1
104	Testing of digitally assisted adaptive analog/RF systems using tuning knob — Performance space estimation. , 2012, , .		1
105	Time Domain Reconstruction of Incoherently Undersampled Periodic Waveforms Using Bandwidth Interleaving. , 2013, , .		1
106	Enhanced Resolution Time-Domain Reflectometry for High Speed Channels: Characterizing Spatial Discontinuities with Non-ideal Stimulus. , 2013, , .		1
107	Low Cost Built-in Sensor Testing of Phase-Locked Loop Dynamic Parameters. Journal of Electronic Testing: Theory and Applications (JETTA), 2014, 30, 515-526.	0.9	1
108	Low cost implicit built-in self-test of passive RFID Tags. , 2014, , .		1

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109	DE-LOC: Design validation and debugging under limited observation and control, pre- and post-silicon for mixed-signal systems. , 2016, , .		1
110	Post-Silicon Validation: Automatic Characterization of RF Device Nonidealities via Iterative Learning Experiments on Hardware. , 2017, , .		1
111	Two Pattern Timing Tests Capturing Defect-Induced Multi-Gate Delay Impact of Shorts. , 2021, , .		1
112	Online Fast Detection and Diagnosis of Power Grid Security Attacks Using State Checksums. , 2021, , .		1
113	Testing RF Components with Supply Current Signatures. Proceedings of the Asian Test Symposium, 2007, , .	0.0	1
114	Diagnosis and Compensation of Control Program, Sensor and Actuator Failures in Nonlinear Systems Using Hierarchical State Space Checks. Journal of Electronic Testing: Theory and Applications (JETTA), 2020, 36, 683-701.	0.9	1
115	Fast EVM Tuning of MIMO Wireless Systems Using Collaborative Parallel Testing and Implicit Reward Driven Learning. , 2020, , .		1
116	Distributed Diagnosis of Interconnections in SoC and MCM Designs. Journal of Electronic Testing: Theory and Applications (JETTA), 2004, 20, 291-307.	0.9	0
117	Test Method for Measuring Bit Error Rate of Pulsed Transceivers in Presence of Narrowband Interferers. IEEE Transactions on Microwave Theory and Techniques, 2007, 55, 1942-1950.	2.9	0
118	Digital bit stream jitter testing using jitter expansion. , 2008, , .		0
119	Real time cross-layer adaptation for minimum energy wireless image transport using bit error rate control. , 2011, , .		0
120	Distributed Comparison Test Driven Multiprocessor Speed-Tuning: Targeting Performance Gains under Extreme Process Variations. , 2011, , .		0
121	24GHZ dual core PLL design for 60 GHz transceiver and efficient validation methodology. , 2012, , .		0
122	Optimal Testing of Digitally Assisted Adaptive RF Systems. , 2012, , .		0
123	Timing Variation Adaptive Pipeline Design: Using Probabilistic Activity Completion Sensing with Backup Error Resilience. , 2014, , .		0
124	Low Cost Signal Reconstruction Based Testing of RF Components using Incoherent Undersampling. Journal of Electronic Testing: Theory and Applications (JETTA), 2014, 30, 213-228.	0.9	0
125	A Noise Aware CML Latch Modelling for Large System Simulation. , 2015, , .		0
126	Post silicon validation of analog/mixed signal/RF circuits and systems: recent advances. , 2016, , .		0

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127	Efficient Built-In Test and Calibration of High Speed Serial I/O Systems Using Monobit Signal Acquisition. Journal of Electronic Testing: Theory and Applications (JETTA), 2019, 35, 809-822.	0.9	0
128	Dynamic Test Stimulus Adaptation for Analog/RF Circuits Using Booleanized Models Extracted From Hardware. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 2006-2019.	1.9	0
129	High Resolution Pulse Propagation Driven Trojan Detection in Digital Systems. Journal of Electronic Testing: Theory and Applications (JETTA), 2021, 37, 41-63.	0.9	0
130	Hierarchical Failure Modeling and Machine Learning Assisted Correction of Electro-Mechanical Subsystem Failures in Autonomous Vehicles. , 2021, , .		0
131	Multi-Sparse Gaussian Process: Learning based Semi-Parametric Control. , 2020, , .		0
132	Self-Aware MIMO Beamforming Systems: Dynamic Adaptation to Channel Conditions and Manufacturing Variability. , 2022, , .		0