

Degang Chen

List of Publications by Year in descending order

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182
papers

1,795
citations

566801

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h-index

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182
all docs

182
docs citations

182
times ranked

641
citing authors

#	ARTICLE	IF	CITATIONS
1	All Digital Low-Overhead SAR ADC Built-In Self-Test for Fault Detection and Diagnosis. , 2022, , .		7
2	Detection of Site to Site Variations from Volume Measurement Data in Multi-site Semiconductor Testing. IEEE Transactions on Instrumentation and Measurement, 2021, , 1-1.	2.4	13
3	Fast Gate Leakage Current Monitor With Large Dynamic Range. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 1690-1694.	2.2	1
4	Sub-ppm/ $\text{\AA}^{\circ}\text{C}$ Bandgap References With Natural Basis Expansion for Curvature Cancellation. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 3551-3561.	3.5	9
5	An Ultrafast Multibit/Stage Pipelined ADC Testing and Calibration Method. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 729-738.	2.4	4
6	MIRE: A Multitone Identification and Replacement Method for Multitone Spectral Test Without Requiring Coherent Sampling. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 4578-4591.	2.4	6
7	A 12-Bit 125-MS/s 2.5-Bit/Cycle SAR-Based Pipeline ADC Employing a Self-Biased Gain Boosting Amplifier. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 3618-3629.	3.5	5
8	Three-Junction Bandgap Circuit with Sub 1 ppm/ $\text{\AA}^{\circ}\text{C}$ Temperature Coefficient. , 2020, , .		2
9	Least Square Based Jitter Decomposition Algorithm for a PAM4 link. , 2020, , .		4
10	A Transient-Enhanced Output-Capacitorless LDO With Fast Local Loop and Overshoot Detection. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 3422-3432.	3.5	43
11	An 8-bit Low-Cost String DAC With Gradient Errors Suppression to Achieve 16-bit Linearity. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 2157-2168.	3.5	8
12	An Integrated Circuit Solution to Johnson Noise Thermometry Using Low-Cost and Fast CMOS Technology. IEEE Sensors Journal, 2019, 19, 3240-3251.	2.4	3
13	Bandgap Voltage V_{GO} Extraction with Two-Temperature Trimming for Designing Sub-ppm/ $\text{\AA}^{\circ}\text{C}$ Voltage References. , 2019, , .		5
14	Built-in self-test and self-calibration for analog and mixed signal circuits. , 2019, , .		0
15	Low-Cost, High-Precision DAC Design Based on Ordered Element Matching. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 502-512.	3.5	7
16	Fast and Accurate Decomposition of Deterministic Jitter Components in High-Speed Links. IEEE Transactions on Electromagnetic Compatibility, 2019, 61, 217-225.	1.4	9
17	High-Purity Sine Wave Generation Using Nonlinear DAC With Predistortion Based on Low-Cost Accurate DAC-ADC Co-Testing. IEEE Transactions on Instrumentation and Measurement, 2018, 67, 279-287.	2.4	15
18	Improving Time-Efficiency of Fault-Coverage Simulation for MOS Analog Circuit. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 1664-1674.	3.5	12

#	ARTICLE	IF	CITATIONS
19	A Transient-Enhanced Fully-Integrated LDO Regulator for SoC Application. , 2018, , .		11
20	USER-SMILE: Ultrafast Stimulus Error Removal and Segmented Model Identification of Linearity Errors for ADC Built-in Self-Test. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 2059-2069.	3.5	22
21	A low-cost jitter separation and ADC spectral testing method without requiring coherent sampling. , 2018, , .		0
22	Cost-Effective High Purity Signal Generator Using Pre-distortion. , 2018, , .		2
23	Accurate Spectral Testing with Impure Test Stimulus for Multi-tone Test. , 2018, , .		5
24	Transparent side channel trigger mechanism on analog circuits with PAAST hardware Trojans. , 2018, , .		8
25	Low-cost and accurate DAC linearity test with ultrafast segmented model identification of linearity errors and removal of measurement errors (uSMILE-ROME). , 2018, , .		4
26	Cost-effective accurate DAC-ADC co-testing and DAC linearization. , 2018, , .		4
27	A High Constancy Rail-to-rail Level Shift Generator for SEIR-based BIST circuit for ADCs. , 2018, , .		4
28	Concurrent Sampling with Local Digitization “ An Alternative to Analog Test Bus. , 2018, , .		4
29	Accurate jitter decomposition in high-speed links. , 2017, , .		4
30	A low-cost method for separation and accurate estimation of ADC noise, aperture jitter, and clock jitter. , 2017, , .		7
31	Efficient Verification Against Undesired Operating Points for MOS Analog Circuits. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 2134-2145.	3.5	3
32	Algorithms for Accurate Spectral Analysis in the Presence of Arbitrary Noncoherency and Large Distortion. IEEE Transactions on Instrumentation and Measurement, 2017, 66, 2556-2565.	2.4	10
33	ADC Spectral Testing with Signal Amplitude Drift and Simultaneous Non-coherent Sampling. Journal of Electronic Testing: Theory and Applications (JETTA), 2017, 33, 305-313.	0.9	2
34	Accurate Spectral Testing With Arbitrary Noncoherency in Sampling and Simultaneous Drifts in Amplitude and Frequency. IEEE Transactions on Instrumentation and Measurement, 2017, 66, 1002-1012.	2.4	5
35	A digital clock-less pulse stretcher with application in deep sub-nanosecond pulse detection. , 2017, , .		1
36	An on-chip ADC BIST solution and the BIST enabled calibration scheme. , 2017, , .		8

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37	Systematic and random mismatch characterization in device arrays. , 2017, , .		0
38	Practical linear and quadratic gradient errors suppression techniques in string DACs. , 2017, , .		2
39	Accurate and robust spectral testing with relaxed instrumentation requirements. , 2017, , .		1
40	Accurate Spectral Testing With Non-Coherent Sampling for Multi-Tone Test. IEEE Transactions on Circuits and Systems II: Express Briefs, 2017, 64, 1357-1361.	2.2	6
41	Accurate spectral testing of the signals with amplitude drift. , 2017, , .		0
42	Technique for generating timing skew resistant time-interleaved signals. , 2017, , .		0
43	A voltage reference generator targeted at extracting the silicon bandgap V_{go} from V_{be} . , 2017, , .		4
44	Toward complete analog fault coverage with minimal observation points using a fault propagation graph. , 2016, , .		1
45	New strategies in removing non-coherency from signals with large distortion to noise ratios. , 2016, , .		7
46	Low cost ultra-pure sine wave generation with self calibration. , 2016, , .		7
47	Accurate Spectral Testing With Impure Source and Noncoherent Sampling. IEEE Transactions on Instrumentation and Measurement, 2016, 65, 2454-2463.	2.4	10
48	New Strategies in Removing Noncoherency From Signals With Large Distortion-to-Noise Ratios. IEEE Transactions on Circuits and Systems II: Express Briefs, 2016, 63, 1136-1140.	2.2	6
49	Low-cost dithering generator for accurate ADC linearity test. , 2016, , .		9
50	Accurate linearity testing with impure sinusoidal stimulus robust against flicker noise. , 2016, , .		4
51	Accurate spectral testing with non-coherent sampling for large distortion to noise ratios. , 2016, , .		12
52	Hardware Trojans embedded in the dynamic operation of analog and mixed-signal circuits. , 2015, , .		16
53	Extracting random jitter and sinusoidal jitter in ADC output with a single frequency test. IEICE Electronics Express, 2015, 12, 20150742-20150742.	0.3	1
54	Cascode and transconductance with capacitances feedback compensation for multistage amplifiers driving no load and 1nF capacitive load. , 2015, , .		2

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55	A Comparative Study of State-of-the-Art High-Performance Spectral Test Methods. IEEE Design and Test, 2015, 32, 26-35.	1.1	8
56	A low cost jitter separation and characterization method. , 2015, , .		7
57	Ultrafast stimulus error removal algorithm for ADC linearity test. , 2015, , .		17
58	Switched-compensation technique in switched-capacitor circuit for achieving fast settling performance. , 2015, , .		0
59	Accurate spectral testing of analog-to-digital converters with frequency drift using phase correction and averaging. , 2015, , .		2
60	A slew-rate enhancement technique for fully differential amplifier without inducing Trojan state. , 2015, , .		3
61	Effect of flicker noise on SEIR for accurate ADC linearity testing. , 2015, , .		4
62	Performance enhancement induced Trojan states in op-amps, their detection and removal. , 2015, , .		11
63	A simple ramp generator with level spreading for SEIR based ADC BIST circuit. , 2015, , .		1
64	High-constancy offset generator robust to CDAC nonlinearity for SEIR-based ADC BIST. , 2015, , .		3
65	A novel 20-bit R-2R DAC structure based on ordered element matching. , 2015, , .		7
66	An integrated circuit solution of thermal noise thermometer with cascaded pre-amplifier and 6-bit resolution analog-to-digital converter. , 2015, , .		2
67	A calibration technique for SAR analog-to-digital converter based on INL testing with quantization bits and redundant bit. , 2015, , .		5
68	A low cost jitter estimation and ADC spectral testing method. , 2015, , .		6
69	Auto-identification of positive feedback loops in multi-state vulnerable circuits. , 2014, , .		8
70	A high gain operational amplifier via an efficient conductance cancellation technique. , 2014, , .		2
71	A graphical method for identifying positive feedback loops automatically in self-biasing circuit for determining the uniqueness of operating points. , 2014, , .		1
72	Efficient Spectral Testing With Clipped and Noncoherently Sampled Data. IEEE Transactions on Instrumentation and Measurement, 2014, 63, 1451-1460.	2.4	5

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73	A CMOS supply-insensitive with 13ppm/°C temperature coefficient current reference. , 2014, , .		8
74	A simple slew rate enhancement technique with improved linearity and preserved small signal performance. , 2014, , .		12
75	Hardware trojan state detection for analog circuits and systems. , 2014, , .		9
76	Identification and break of positive feedback loops in Trojan States Vulnerable Circuits. , 2014, , .		15
77	Efficient analog verification against Trojan states using divide and contraction method. , 2014, , .		8
78	Accurate and efficient method of jitter and noise separation and its application to ADC testing. , 2014, , .		8
79	A high resolution and high accuracy R-2R DAC based on ordered element matching. , 2013, , .		11
80	A CMOS on-chip temperature sensor with $\pm 0.21^{\circ}\text{C}$ 0.17°C inaccuracy from $\pm 20^{\circ}\text{C}$ to 100°C . , 2013, , .		11
81	Soft Elastomeric Capacitor Network for Strain Sensing Over Large Surfaces. IEEE/ASME Transactions on Mechatronics, 2013, 18, 1647-1654.	3.7	81
82	FIRE: A Fundamental Identification and Replacement Method for Accurate Spectral Test Without Requiring Coherency. IEEE Transactions on Instrumentation and Measurement, 2013, 62, 3015-3025.	2.4	33
83	Reliability degradation with electrical, thermal and thermal gradient stress in interconnects. , 2013, , .		3
84	Accurate full spectrum test robust to simultaneous non-coherent sampling and amplitude clipping. , 2013, , .		6
85	A 15-bit binary-weighted current-steering DAC with ordered element matching. , 2013, , .		11
86	An Order-Statistics Based Matching Strategy for Circuit Components in Data Converters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 11-24.	3.5	19
87	High resolution ADC spectral test with known impure source and non-coherent sampling. , 2013, , .		5
88	ADC spectral testing allowing amplitude clipping. , 2013, , .		7
89	Practical methods for verifying removal of Trojan stable operating points. , 2013, , .		16
90	A low cost method for testing offset and gain error for ADC BIST. , 2012, , .		3

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91	An on-chip inductive impedance measurement method with adaptive measurement range control for MWM-array based NDE applications. , 2012, , .		1
92	ADC jitter estimation using a single frequency test without requiring coherent sampling. IEICE Electronics Express, 2012, 9, 1485-1491.	0.3	3
93	An Accurate and Cost-Effective Jitter Measurement Technique Using a Single Test Frequency. Journal of Electronic Testing: Theory and Applications (JETTA), 2012, 28, 733-743.	0.9	2
94	On Chip Signal Generators for Low Overhead ADC BIST. Journal of Electronic Testing: Theory and Applications (JETTA), 2012, 28, 615-623.	0.9	4
95	Reliability modeling of metal interconnects with time-dependent electrical and thermal stress. , 2012, , .		2
96	A method for accurate full spectrum testing without requiring coherency. , 2012, , .		1
97	Performance verification of start-up circuits in reference generators. , 2012, , .		6
98	Algorithm for dramatically improved efficiency in ADC linearity test. , 2012, , .		31
99	A compact low-power supply-insensitive CMOS current reference. , 2012, , .		10
100	New Spectral Leakage-Removing Method for Spectral Testing of Approximate Sinusoidal Signals. IEEE Transactions on Instrumentation and Measurement, 2012, 61, 1296-1306.	2.4	26
101	A 2-FFT method for on-chip spectral testing without requiring coherency. , 2011, , .		8
102	SNR measurement based on linearity test for ADC BIST. , 2011, , .		5
103	A novel robust and accurate spectral testing method for non-coherent sampling. , 2011, , .		20
104	A faster method for accurate spectral testing without requiring coherent sampling. , 2011, , .		7
105	Linear v_t -based temperature sensors with low process sensitivity and improved power supply headroom. , 2011, , .		13
106	ADC spectral performance measurement uncertainty in DFT method. , 2011, , .		1
107	Multi-site on-chip current sensor for electromigration monitoring. , 2011, , .		3
108	Multi-threshold transistors cell for Low Voltage temperature sensing applications. , 2011, , .		12

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109	INL based dynamic performance estimation for ADC BIST. , 2010, , .		12
110	Detailed analyses in prediction of capacitive-mismatch-induced offset in dynamic comparators. , 2010, , .		0
111	Phase control of triangular stimulus generator for ADC BIST. , 2010, , .		5
112	A new method for estimating spectral performance of ADC from INL. , 2010, , .		4
113	A faster and accurate method for spectral testing applicable to noncoherent data. , 2010, , .		5
114	Highly linear very compact untrimmed on-chip temperature sensor with second and third order temperature compensation. , 2010, , .		14
115	New calibration technique for current-steering DACs. , 2010, , .		23
116	A linear differential output of threshold-based CMOS temperature sensor with enhanced signal range. , 2010, , .		1
117	Systematic characterization of subthreshold- mosfets-based voltage references for ultra low power low voltage applications. , 2010, , .		5
118	Sensorless temperature measurement based on ADC Input noise measurement. , 2010, , .		4
119	Optimal area and impedance allocation for dual - string DACs. , 2009, , .		0
120	Code-Density Test of Analog-to-Digital Converters Using Single Low-Linearity Stimulus Signal. IEEE Transactions on Instrumentation and Measurement, 2009, 58, 2679-2685.	2.4	17
121	High-Resolution ADC Linearity Testing Using a Fully Digital-Compatible BIST Strategy. IEEE Transactions on Instrumentation and Measurement, 2009, 58, 2697-2705.	2.4	18
122	Stimulus generator for SEIR method based ADC BIST. , 2009, , .		11
123	New sequence switching and layout technique for high-speed high-accuracy current-steering DACs. , 2009, , .		8
124	Analyses of Static and Dynamic Random Offset Voltages in Dynamic Comparators. IEEE Transactions on Circuits and Systems I: Regular Papers, 2009, 56, 911-919.	3.5	137
125	Cost effective signal generators for ADC BIST. , 2009, , .		16
126	Testing of Precision DAC Using Low-Resolution ADC With Wobbling. IEEE Transactions on Instrumentation and Measurement, 2008, 57, 940-946.	2.4	17

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127	A simple and accurate method to predict offset voltage in dynamic comparators. , 2008, , .		4
128	A detailed analysis of nonideal effects on high precision bandgap voltage references. , 2008, , .		2
129	An overview and behavioral modeling of higher order multi-bit ΣΔ A/D converters. , 2008, , .		3
130	On-chip at-speed linearity testing of high-resolution high-speed DACs using DDEM ADCs with dithering. , 2008, , .		5
131	System identification -based reduced-code testing for pipeline ADCs– linearity test. , 2008, , .		2
132	Deterministic DEM DAC Performance Analysis. , 2007, , .		0
133	Robust High-Gain Amplifier Design Using Dynamical Systems and Bifurcation Theory With Digital Postprocessing Techniques. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2007, 54, 964-973.	0.1	7
134	Code-Density Test of Analog-to-Digital Converters Using Single Low-Linearity Stimulus Signal. , 2007, , .		7
135	A fully digital-compatible BIST strategy for ADC linearity testing. , 2007, , .		17
136	Testing High-Resolution ADCs With Low-Resolution/Accuracy Deterministic Dynamic Element Matched DACs. IEEE Transactions on Instrumentation and Measurement, 2007, 56, 1753-1762.	2.4	23
137	SEIR Linearity Testing of Precision A/D Converters in Nonstationary Environments With Center-Symmetric Interleaving. IEEE Transactions on Instrumentation and Measurement, 2007, 56, 1776-1785.	2.4	28
138	Output tracking control of a one-link flexible manipulator via causal inversion. IEEE Transactions on Control Systems Technology, 2006, 14, 141-148.	3.2	25
139	Yield enhancement with optimal area allocation for ratio-critical analog circuits. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2006, 53, 534-553.	0.1	17
140	Linearity Test of Analog-to-Digital Converters Using Kalman Filtering. IEEE International Test Conference (TC), 2006, , .	0.0	10
141	A Deterministic Dynamic Element Matching Approach for Testing High-Resolution ADCs With Low-Accuracy Excitations. IEEE Transactions on Instrumentation and Measurement, 2006, 55, 902-915.	2.4	13
142	Accurate Testing of Analog-to-Digital Converters Using Low Linearity Signals With Stimulus Error Identification and Removal. IEEE Transactions on Instrumentation and Measurement, 2005, 54, 1188-1199.	2.4	110
143	Feedback control strategies for a nonholonomic mobile robot using a nonlinear oscillator. Journal of Field Robotics, 1999, 16, 237-248.	0.7	6
144	A finite energy property of stable inversion to nonminimum phase nonlinear systems. IEEE Transactions on Automatic Control, 1998, 43, 1170-1174.	3.6	12

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145	Tip trajectory tracking of a flexible-joint robot using stable inversion. , 1997, , .		1
146	Stable inversion of nonlinear non-minimum phase systems. International Journal of Control, 1996, 64, 81-97.	1.2	122
147	Asymptotic feedback stabilization of a nonholonomic mobile robot using a nonlinear oscillator. , 0, , .		4
148	Automatic landing control using H/∞ control and stable inversion. , 0, , .		7
149	Robust inversion-based learning control for nonminimum phase systems. , 0, , .		1
150	A dynamic element matching approach to ADC testing. , 0, , .		9
151	A blind identification algorithm for digital calibration of pipelined ADC. , 0, , .		0
152	Inversion-based adaptive learning control for a one-link flexible manipulator. , 0, , .		0
153	A modified histogram approach for accurate self-characterization of analog-to-digital converters. , 0, , .		15
154	Optimal loop parameter design of charge pump PLLs for jitter transfer characteristic optimization. , 0, , .		4
155	Equivalent gain analysis for nonlinear operational amplifiers. , 0, , .		2
156	Tip trajectory tracking for a one-link flexible manipulator using causal inversion. , 0, , .		1
157	A blind identification approach to digital calibration of analog-to-digital converters for built-in-self-test. , 0, , .		11
158	Output tracking control of nonminimum phase systems via causal inversion. , 0, , .		1
159	A deterministic dynamic element matching approach to ADC testing. , 0, , .		11
160	Experimental evaluation and validation of a BIST algorithm for characterization of A/D converter performance. , 0, , .		4
161	Linearity testing of precision analog-to-digital converters using stationary nonlinear inputs. , 0, , .		28
162	Optimum area allocation for resistors and capacitors in continuous-time monolithic filters. , 0, , .		2

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163	Testing high resolution ADCs using deterministic dynamic element matching. , 0, , .		8
164	Parameter optimization of deterministic dynamic element matching DACs for accurate and cost-effective ADC testing. , 0, , .		8
165	A background digital self-calibration scheme for pipelined ADCs based on transfer curve estimation. , 0, , .		1
166	Testing high resolution ADCs with low resolution/accuracy deterministic dynamic element matched DACs. , 0, , .		4
167	A novel 1.5 V CMFB CMOS down-conversion mixer design for IEEE 802.11 A WLAN systems. , 0, , .		7
168	An SoC compatible linearity test approach for precision ADCs using easy-to-generate sinusoidal stimuli. , 0, , .		9
169	Fast implementation of a linearity test approach for high-resolution ADCs using non-linear ramp signals. , 0, , .		6
170	A Two-Step DDEM ADC for Accurate and Cost-Effective DAC Testing. , 0, , .		5
171	A Segmented Thermometer Coded DAC with Deterministic Dynamic Element Matching for High Resolution ADC Test. , 0, , .		2
172	An N th /sup<Order Central Symmetrical Layout Pattern for Nonlinear Gradients Cancellation. , 0, , .		8
173	A Test Strategy for Time-to-Digital Converters Using Dynamic Element Matching and Dithering. , 0, , .		1
174	High-performance adc linearity test using low-precision signals in non-stationary environments. , 0, , .		15
175	A Cost-Effective Histogram Test-Based Algorithm for Digital Calibration of High-Precision Pipelined ADCs. , 0, , .		12
176	Dither Incorporated Deterministic Dynamic Element Matching for High Resolution ADC Test Using Extremely Low Resolution DACs. , 0, , .		5
177	A Digital Self-Calibration Algorithm for ADCs Based on Histogram Test Using Low-Linearity Input Signals. , 0, , .		13
178	Characterization of a current-mode bandgap circuit structure for high-precision reference applications. , 0, , .		3
179	Explicit Characterization of Bandgap References. , 0, , .		4
180	Linearity Test for High Resolution DACs Using Low-Accuracy DDEM Flash ADCs. , 0, , .		2

#	ARTICLE	IF	CITATIONS
181	A Self-Calibrated Bandgap Voltage Reference with 0.5 ppm/°C Temperature Coefficient. , 0, , .		3
182	Causal inversion of nonminimum phase systems. , 0, , .		10