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Wideband Data Converters
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Quote

"As long as society relies on digital electronics, technologies for analog-to-digital conversion and vice versa are unavoidably necessary – in particular in the communication domain, where society will always need higher speeds for lower costs."

Employment

Assistant Professor

Assistant Professor
Integrated Circuits
Eindhoven University of Technology
Eindhoven, Netherlands
15 Feb 2009 → 30 Jun 2012

Doctoral Candidate

Doctoral Candidate
Integrated Circuits
Eindhoven University of Technology
Eindhoven, Netherlands
1 Sept 2008 → 14 Feb 2009

Doctoral Candidate

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Integrated Circuits
Eindhoven University of Technology
Eindhoven, Netherlands
1 Sept 2004 → 14 Feb 2009

Unknown

unknown
Integrated Circuits
Eindhoven University of Technology
Eindhoven, Netherlands
1 Jan 2003 → 31 Aug 2004

Assistant Professor

Assistant Professor
Integrated Circuits
Eindhoven University of Technology
Eindhoven, Netherlands
1 Jul 2012 → 21 Jul 2020

Wideband Data Converters

Eindhoven University of Technology
Eindhoven, Netherlands
1 Sept 2004 → present

Center for Astronomical Instrumentation

Eindhoven University of Technology
Eindhoven, Netherlands
1 Jul 2019 → present

Assistant Professor

Assistant Professor
Integrated Circuits
Eindhoven University of Technology
Eindhoven, Netherlands
1 Jan 2020 → 14 Apr 2021

Assistant Professor

Assistant Professor
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Eindhoven University of Technology
Eindhoven, Netherlands
5 Mar 2021 → 3 Apr 2022

Associate Professor

Associate Professor
Integrated Circuits
Eindhoven University of Technology
Eindhoven, Netherlands
1 Feb 2022 → present

Student, Information and Communication Technology

Student, 12bit self-calibrated DAC
Electrical Engineering
Eindhoven University of Technology
1 Feb 2002 → 1 Feb 2004

Research outputs

The Impact of Transceiver Nonlinearity in PMCW Radar using Polyphase coded Sequences

Rosenmuller, D., van de Ven, B., Doris, K., Radulov, G. I., Matters-Kammerer, M. K. & Janssen, E., 26 Oct 2023, *2023 20th European Radar Conference (EuRAD)*. Institute of Electrical and Electronics Engineers, p. 106-109 4 p. 10289389

Qualitative Assessment Guidelines for MSc Graduation Projects in Electrical Engineering

Radulov, G. I., Serra, R., Basten, A. A., Martinez, C. & Greijmans, M., 20 Jul 2023, *EAAEIE 2023: Proceedings of the 2023 32nd Annual Conference of the European Association for Education in Electrical and Information Engineering (EAAEIE)*. van der Aa, N. (ed.). Institute of Electrical and Electronics Engineers, p. 1-6 6 p. 10181593

RF and mm-Wave Systems and Circuits for Communications and Sensing

Vidojkovic, V., Milosevic, D., Ding, K., van Dommele, R., Holmstedt, J., Lai, H., van Puijenbroek, C., Schalk, R., Swaminathan, V., Vissers, R., Hou, Y., Zivkovic, I., Radulov, G. & Baltus, P., 2023, *2023 58th International Scientific Conference on Information, Communication and Energy Systems and Technologies, ICEST 2023 - Proceedings*. Doncov, N. S., Stankovic, Z. Z. & Stosic, B. P. (eds.). Institute of Electrical and Electronics Engineers, p. 83-92 10 p. 10187336

A 158-mW 360-MHz BW 68-dB DR Continuous-Time 1-1-1 Filtering MASH ADC in 40-nm CMOS

Liu, Q., Breems, L. J., Bajoria, S., Bolatkale, M., Rutten, R. & Radulov, G., 1 Dec 2022, In: *IEEE Journal of Solid-State Circuits*. 57, 12, p. 3781-3793 13 p.

Mapping Error Reduction Methods for Polyphase Codes Generated by Quadrature Architectures

van de Ven, B., Rosenmuller, D., Janssen, E., Doris, K., Radulov, G. & Matters-Kammerer, M., 25 Oct 2022, *2022 19th European Radar Conference (EuRAD)*. Institute of Electrical and Electronics Engineers, p. 49-52 4 p. 9924784

Systems and methods for processing errors in digital beamforming receivers

Athanasiadis, P., Doris, K., Neofytou, M. & Radulov, G. I., 14 Apr 2022, Patent No. US20220113373, 13 Oct 2020

A 5GS/s 360MHz-BW 68dB-DR Continuous-Time 1-1-1 Filtering MASH $\Delta\Sigma$ ADC in 40nm CMOS

Liu, Q., Breems, L., Zhang, C., Bajoria, S., Bolatkale, M., Rutten, R. & Radulov, G., 17 Mar 2022, *2022 IEEE International Solid-State Circuits Conference (ISSCC 2022)*. Institute of Electrical and Electronics Engineers, p. 414-416 3 p. 9731789

Systems and methods for calibration of in-phase/quadrature (I/Q) modulators

Neofytou, M., Doris, K., Ganzerli, M., Radulov, G. I. & Athanasiadis, P., 18 Jan 2022, Patent No. US11228478, 13 Oct 2020, Priority No. US202017069669 20201013

Sub-Milliwatt Transceiver IC for Transcutaneous Communication of an Intracortical Visual Prosthesis

Omisakin, A., Radulov, G., Mestrom, R. & Bentum, M., 1 Jan 2022, In: *Electronics*. 11, 1, 20 p., 24.

A 6GS/s 0.5GHz BW continuous-time 2-1-1 MASH $\Delta\Sigma$ modulator with phase-boosted current-mode ELD compensation in 40nm CMOS

Zhang, C., Breems, L., Liu, Q., Radulov, G., Bolatkale, M., Bajoria, S., Rutten, R. & Van Roermund, A. H. M., 26 Oct 2021, *ESSCIRC 2021 - IEEE 47th European Solid State Circuits Conference (ESSCIRC)*. Institute of Electrical and Electronics Engineers, p. 491-494 4 p. 9567777

A novel 2-Dimensional correction method for mm-Wave Cartesian I/Q Modulators

Neofytou, M., Athanasiadis, P., Ganzerli, M., Lont, M., Radulov, G. I. & Doris, K., 27 Apr 2021, *2021 IEEE International Symposium on Circuits and Systems, ISCAS 2021 - Proceedings*. IEEE/LEOS, 5 p. 9401408

Time Interleaved ADC mismatch error correction technique in I/Q Digital Beamforming Receivers

Athanasiadis, P., Neofytou, M., Ganzerli, M., Radulov, G. I. & Doris, K., 27 Apr 2021, *2021 IEEE International Symposium on Circuits and Systems, ISCAS 2021 - Proceedings*. Institute of Electrical and Electronics Engineers, p. 1-5 5 p. 9401645

Analysis of Time-Interleaved ADC Offset and Gain Mismatch Errors in PMCW Radar

Rosenmuller, D., Doris, K., Radulov, G. & Matters-Kammerer, M., 3 Feb 2021, *2020 17th European Radar Conference (EuRAD)*. Institute of Electrical and Electronics Engineers, p. 434-437 4 p. 9337377

A 0.037mm² 1GSps 12b self-calibrated 40nm CMOS DAC cell with SFDR>60dB up to 200MHz and IM3 < -60dB up to 350MHz

Radulov, G. I. & Quinn, P., 9 Oct 2020, *ECCTD 2020 - 24th IEEE European Conference on Circuit Theory and Design*. Institute of Electrical and Electronics Engineers, 4 p. 9218326

Analysis of the inter-stage signal leakage in wide BW low OSR and high DR CT MASH $\Delta\Sigma$ M

Liu, Q., Breems, L. J., Bajoria, S., Bolatkale, M., Zhang, C. & Radulov, G. I., 28 Sept 2020, *2020 IEEE International Symposium on Circuits and Systems, ISCAS 2020 - Proceedings*. Institute of Electrical and Electronics Engineers, 5 p. 9180951

A novel analysis of the beam squinting in wideband phased array digital I/Q transmitters

Manev, V., Neofytou, M., Radulov, G. & Doris, K., Sept 2020, *ECCTD 2020 - 24th IEEE European Conference on Circuit Theory and Design*. Institute of Electrical and Electronics Engineers, 4 p. 9218366

Novel Baseband Analog Beamforming through Resistive DACs and Sigma Delta Modulators

Ringeling, S., Steinebach, L., Liu, Q., Zhang, C., Bajoria, S., Bolatkale, M., Breems, L. & Radulov, G., Sept 2020, *ECCTD 2020 - 24th IEEE European Conference on Circuit Theory and Design*. Institute of Electrical and Electronics Engineers, 4 p. 9218408

A 1.9 mW 250 MHz Bandwidth Continuous-Time $\Sigma\Delta$ Modulator for Ultra-Wideband Applications

Neofytou, M., Zhou, M., Bolatkale, M., Liu, Q., Zhang, C., Radulov, G., Baltus, P. & Breems, L., 26 Apr 2018, *2018 IEEE International Symposium on Circuits and Systems, ISCAS 2018 - Proceedings*. Piscataway: Institute of Electrical and Electronics Engineers, 5 p. 8351046

A 2 GHz 0.98 mW 4-bit SAR-based quantizer with ELD compensation in an UWB CT $\Sigma\Delta$ modulator

Zhou, M., Neofytou, M., Bolatkale, M., Liu, Q., Zhang, C., Cenci, P., Radulov, G., Baltus, P. & Breems, L., 26 Apr 2018, *2018 IEEE International Symposium on Circuits and Systems, ISCAS 2018 - Proceedings*. Piscataway: Institute of Electrical and Electronics Engineers, 5 p. 8350889

Current-mode multi-path excess loop delay compensation for GHz sampling CT $\Sigma\Delta$ ADCs

Zhang, C., Breems, L. J., Radulov, G. I., Bolatkale, M., Liu, Q., Hegt, J. A. & van Roermund, A. H. M., 29 May 2017, *IEEE International Symposium on Circuits and Systems*. Piscataway: Institute of Electrical and Electronics Engineers, p. 547-550 4 p. 8050369

High-speed linear digital-to-analog converters

van Roermund, A. H. M. & Radulov, G. I., 9 Feb 2017.

A digital calibration technique for wide-band CT MASH $\Sigma\Delta$ ADCs with relaxed filter requirements

Zhang, C., Breems, L. J., Radulov, G. I., Bolatkale, M., Hegt, J. A. & van Roermund, A. H. M., 24 May 2016, *IEEE International Symposium on Circuits and Systems 2016 (ISCAS), 22-25 May 2016, Montreal, Canada*. Piscataway: Institute of Electrical and Electronics Engineers, p. 1486-1489

A wideband RF mixing-DAC achieving $\text{IMD} < -82$ dBc up to 1.9 GHz

Bechthum, E., Radulov, G. I., Briaire, J., Geelen, G. J. G. M. & van Roermund, A. H. M., 16 May 2016, In: *IEEE Journal of Solid-State Circuits*. 51, 6, p. 1374-1384 11 p.

A Design Methodology for Wide-Band Continuous-Time MASH $\Sigma\Delta$ ADC Architectures

Zhang, C., Breems, L. J., Radulov, G. I., Hegt, J. A. & van Roermund, A. H. M., 22 Mar 2016.

Classification for synthesis of high spectral purity current-steering mixing-DAC architectures

Bechthum, E., Radulov, G. I., Briaire, J., Geelen, G. & Roermund, van, A. H. M., 1 Dec 2015, In: *Analog Integrated Circuits and Signal Processing*. 85, 3, p. 497-504 8 p.

Comparison of the implementation options of a summation function in high speed continuous-time sigma-delta ADCs

Zhang, C., Xin, H., Radulov, G., Breems, L., Hegt, H. & van Roermund, A. H. M., 24 Mar 2015.

A 28-nm CMOS 1 V 3.5 GS/s 6-bit DAC with signal-independent delta-I noise DfT scheme

Radulov, G. I., Quinn, J. A. & Roermund, van, A. H. M., 2015, In: *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*. 23, 1, p. 44-53 10 p.

A 28-nm CMOS 7-GS/s 6-bit DAC with DfT clock and memory reaching SFDR >50 dB Up to 1 GHz

Radulov, G. I., Quinn, P. J. & Roermund, van, A. H. M., 2015, In: *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*. 23, 9, p. 1941-1945 5 p.

A 5.3 GHz 16b 1.75 GS/S wideband RF mixing-DAC achieving IMD

Bechthum, E., Radulov, G. I., Briaire, J., Geelen, B. & Roermund, van, A. H. M., 2015, *2015 IEEE International Solid-State Circuits Conference (ISSCC), 22-26 Februar 2015, San Francisco*. Piscataway: Institute of Electrical and Electronics Engineers, p. 1-3

A novel timing-error based approach for high speed highly linear Mixing-DAC architectures

Bechthum, E., Radulov, G. I., Briaire, J., Geelen, G. & Roermund, van, A. H. M., 2014, *Proceedings of the 2014 IEEE International Symposium on Circuits and Systems (ISCAS 2014), 1-5 June 2014, Melbourne, Australia*. Piscataway: Institute of Electrical and Electronics Engineers, p. 942-945

Methods and systems for high frequency clock distribution

Radulov, G. I. & Quinn, P. J., 22 Oct 2013, Patent No. 8564330

Integrated test support features for multi-GHz DACs in 28nm CMOS

Quinn, P., Radulov, G. I. & van Roermund, A. H. M., 13 Sept 2013, *TVHSAC: IEEE International Workshop on Test and Validation of High Speed Analog Circuits Anaheim, CA, USA*. 3 p.

A novel output transformer based highly linear RF-DAC architecture

Bechthum, E., Radulov, G. I., Briaire, J., Geelen, G. & Roermund, van, A. H. M., 2013, *Proceedings of the 21st European Conference on Circuit Theory and Design (ECCTD 2013), 8-12 September 2013, Dresden, Germany*. p. 1-4

Challenges in high-speed single-bit continuous-time $\Sigma\Delta$ analog-to-digital converters

Meuleman, G., Zhang, C., Radulov, G. I., Breems, L. J. & Roermund, van, A. H. M., 2013.

High-resolution continuous-time sigma-delta converters with multi-Bbit quantization

Zhang, C., Meuleman, G., Radulov, G. I., Breems, L. J. & Roermund, van, A. H. M., 2013.

Automatic generation of layout of arrays of current sources and capacitors

Balmaekers, B. M., Harpe, P. J. A. & Radulov, G. I., 2012, *Proceedings of ICT.Open 2012, 22-23 October 2012, Rotterdam, The Netherlands*. Rotterdam: NWO

Systematic analysis of the impact of mixing locality on Mixing-DAC linearity for multicarrier GSM

Bechthum, E., Radulov, G. I., Briaire, J., Geelen, G. & Roermund, van, A. H. M., 2012, *Presentation at the 2012 IEEE International Symposium on Circuits and Systems (ISCAS 2012), May 20-23, 2012, Seoul, Korea*. Piscataway: Institute of Electrical and Electronics Engineers, p. 241-244

A 14 Bit Quad Core Flexible 180 nm DAC Platform

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 259-267 9 p. (Analog Circuits and Signal Processing).

A 16 bit 16-core Flexible 40 nm DAC Platform

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 269-289 21 p. (Analog Circuits and Signal Processing).

A Functional-Segmentation DAC Design Using Harmonic Distortion Suppression Method

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 247-257 11 p. (Analog Circuits and Signal Processing).

Analysis of Self-Calibration of Currents, an In-depth View

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 95-127 33 p. (Analog Circuits and Signal Processing).

A novel temperature and disturbance insensitive DAC calibration method

Bechthum, E., Radulov, G. I. & Roermund, van, A. H. M., 2011, *Proceedings of the 2011 International Symposium on Circuits and Systems (ISCAS), 15 - 18 May 2011, Rio de Janeiro, Brazil*. Piscataway: Institute of Electrical and Electronics Engineers, p. 2003-2006

A Redundant Binary-to-Thermometer Decoder Design

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 213-220 8 p. (Analog Circuits and Signal Processing).

A temperature and disturbance insensitive calibration method for high speed digital to analog converters

Bechthum, E., Radulov, G. I. & Roermund, van, A. H. M., 2011, *Proceedings of the interface for dutch ICT-research(ICT.OPEN), 14-15 November 2011, Veldhoven, Netherlands*. p. 1-6

Basics of Digital-to-Analog Conversion

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*2. Springer, p. 11-29 19 p. (Analog Circuits and Signal Processing).

Brownian Bridge Based Analysis and Modeling of DAC Linearity, an In-depth View

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 71-83 13 p. (Analog Circuits and Signal Processing).

Classification of Error Correction Methods, a Broad View

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 85-94 10 p. (Analog Circuits and Signal Processing).

Error Correction by Design

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 33-41 9 p. (Analog Circuits and Signal Processing).

Error Modeling for DAC Correction, a Broad View

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 59-70 12 p. (Analog Circuits and Signal Processing).

Flexible Digital-to-Analog Converters Concept

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 185-209 25 p. (Analog Circuits and Signal Processing).

New Harmonic-Distortion-Suppression Method

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 177-183 7 p. (Analog Circuits and Signal Processing).

New High-Level Mapping Concept

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 169-175 7 p. (Analog Circuits and Signal Processing).

New Methods for Self-Calibration of Currents

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 141-158 18 p. (Analog Circuits and Signal Processing).

New Redundant Decoder Concept

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 159-168 10 p. (Analog Circuits and Signal Processing).

New Redundant Segmentation Concept

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 131-140 10 p. (Analog Circuits and Signal Processing).

Smart and flexible digital-to-analog converters

Radulov, G. I., Quinn, P. J., Hegt, J. A. & Roermund, van, A. H. M., 2011, Dordrecht: Springer. 309 p. (Analog circuits and signal processing series)

Smart Self-Correcting D/A Converters

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 43-55 13 p. (Analog Circuits and Signal Processing).

Two Self-Calibrating DAC Designs

Radulov, G., Quinn, P., Hegt, H. & van Roermund, A., 2011, *Smart and Flexible Digital-to-Analog Converters*. Springer, p. 221-245 25 p. (Analog Circuits and Signal Processing).

Flexible and self-calibrating current-steering digital-to-analog converters : analysis, classification and design

Radulov, G. I., 2010, Eindhoven: Technische Universiteit Eindhoven. 289 p.

Calibration of current-steering D/A Converters

Radulov, G. I., Quinn, P. J., Hegt, J. A. & Roermund, van, A. H. M., 2009, *Proceedings of Analog/Mixed-signal Innovation Network "Digitally Assisted Analogue", 22nd October 2009, Dublin, Ireland*. p. 1-26

DAC correction and flexibility, classification, new methods and designs

Radulov, G. I., Quinn, P. J., Hegt, J. A. & Roermund, van, A. H. M., 2009, *Analog Circuit Design - Smart Data Converters, Filters on Chip, Multimode Transmitters*. Roermund, van, A. H. M., Steyaert, M. & Casier, H. J. (eds.). Dordrecht: Springer, p. 79-105 342 p.

Functionals of Brownian bridges arising in the current mismatch in D/A converters

Heydenreich, M. O., Hofstad, van der, R. W. & Radulov, G. I., 2009, In: *Probability in the Engineering and Informational Sciences*. 23, 1, p. 149-172 24 p.

Smart and flexible DACs, classification and design

Radulov, G. I., Quinn, P. J., Hegt, J. A. & Roermund, van, A. H. M., 2009, *Proceedings of Advances in Analog Circuit Design, AACD 2009, March 31-April 2, 2009, Lund, Sweden*.

Smart front-ends, from vision to design

Roermund, van, A. H. M., Baltus, P. G. M., Bezooijen, van, A., Hegt, J. A., Lopelli, E., Mahmoudi, R., Radulov, G. I. & Vidjokovic - Andjelovic, M., 2009, In: *IEICE Transactions on Electronics*. E92.C, 6, p. 747-756 10 p.

Method and apparatus for calibrating a scaled current electronic circuit

Radulov, G. I., Quinn, P. J., Hegt, J. A. & Roermund, van, A. H. M., 16 Dec 2008, Patent No. US7466252

A flexible 12-bits self-calibrated quad-core current-steering DAC

Radulov, G. I., Quinn, P. J., Hegt, J. A. & Roermund, van, A. H. M., 2008, *2008 IEEE Asia Pacific Conference on Circuits and Systems - Macau - China*.

Brownian-bridge-based statistical analysis of DAC INL caused by current mismatch

Radulov, G. I., Heydenreich, M. O., Hofstad, van der, R. W., Hegt, J. A. & Roermund, van, A. H. M., 2007, In: *IEEE Transactions on Circuits and Systems II: Express Briefs*. 54, 2, p. 146-150

Parallel current-steering D/A Converters for flexibility and smartness

Radulov, G. I., Quinn, P. J., Harpe, P. J. A., Hegt, J. A. & Roermund, van, A. H. M., 2007, *Proceedings of the IEEE International Symposium on Circuits and Systems (ISCAS 2007) 27 - 30 May 2007, New Orleans, Louisiana, USA*. Piscataway, New Jersey, USA: Institute of Electrical and Electronics Engineers, p. 1465-1468

Parallel current-steering D/A Converters for flexibility and smartness

Radulov, G. I., Quinn, P. J., Harpe, P. J. A., Hegt, J. A. & Roermund, van, A. H. M., 2007, *proceeding of ProRISC 2007*.

Method and Apparatus for Calibrating A Current -Based Circuit

Radulov, G. I., Quinn, P. J., Hegt, J. A. & Roermund, van, A. H. M., 11 Jul 2006, Patent No. 7076384

A binary-to-thermometer decoder with built-in redundancy for improved DAC Yield

Radulov, G. I., Quinn, P. J., Beek, van, P. C. W., Hegt, J. A. & Roermund, van, A. H. M., 2006, *Proceedings of the IEEE International Symposium on Circuits and Systems (ISCAS 2006) 21 - 24 May 2006, Island of Kos, Greece*. Piscataway, New Jersey, USA: Institute of Electrical and Electronics Engineers

A binary-to-thermometer decoder with redundant switching sequences

Radulov, G. I., Quinn, P. J., Beek, van, P. C. W., Hegt, J. A. & Roermund, van, A. H. M., 2006, *Proceedings of the 17th ProRISC, Annual Workshop on Circuits, Systems and Signal Processing (ProRISC 2006) 23 - 24 November 2006, Veldhoven, the Netherlands*. Utrecht, the Netherlands: Technology Foundation, p. 1414-1417

Functionals of Brownian bridges arising in the current mismatch in D/A-converters

Heydenreich, M. O., Hofstad, van der, R. W. & Radulov, G. I., 2006, Eindhoven: Eurandom. 21 p. (Report Eurandom; vol. 2006016)

A start-up calibration method for generic current-steering D/A converters with optimal area solution

Radulov, G. I., Quinn, P. J., Hegt, J. A. & Van Roermund, A. H. M., 1 Dec 2005, *2005 IEEE International Symposium on Circuits and Systems*. Piscataway: Institute of Electrical and Electronics Engineers, p. 788-791 4 p.

An On-Chip Self-Calibration Method for Current Mismatch in D/A Converters

Radulov, G. I., Quinn, P. J., Hegt, J. A. & Roermund, van, A. H. M., 2005, *ESSCIRC 2005*. p. 169-172

A Parallel Current-steering DAC Architecture for Flexible and Improved Performance

van den Hoven, R. A. T., Radulov, G. I., Hegt, J. A. & Roermund, van, A. H. M., 2005, *ProRisc 2005*.

Smart AD and DA Converters

Roermund, van, A. H. M., Hegt, J. A., Harpe, P. J. A., Radulov, G. I., Zanikopoulos, A., Doris, K. & Quinn, P. J., 2005, *Proceedings of the IEEE International Symposium on Circuits and Systems (ISCAS 2005) 23 - 26 May 2005, Kobe, Japan*. Piscataway, New Jersey, USA: Institute of Electrical and Electronics Engineers, Vol. 4. p. 4062-4065

A Calibration Algorithm for current-steering DACs with Relaxed design requirements

Radulov, G. I., Hegt, J. A., Quinn, P. J. & Roermund, van, A. H. M., 2004, *Proceedings of the 9th Biennial Baltic Electronics Conference 3-6 October, Tallin, Estonia*. p. 105-108

A New Current Calibration Scheme Suitable for Generic DAC Architectures

Radulov, G. I., Hegt, J. A., Quinn, P. J. & Roermund, van, A. H. M., 2004, *Proceedings of the 15th ProRISC, Annual Workshop on Circuits, Systems and Signal Processing (ProRISC 2004) 25 - 26 November 2004, Veldhoven, the Netherlands*. Utrecht, the Netherlands: STW Technology Foundation, p. 577-584

A Self-calibrating current-steering 12-bit DAC based on new 1-bit self-test scheme

Radulov, G. I., Quinn, P. J., Hegt, J. A. & Roermund, van, A., 2004, *Proceedings of the IEEE IC Test Workshop 2004, 13-14 September 2004, Limerick, Ireland*. p. 49-54

Design of a calibrated 12-bit current-steering Digital-to-Analog Converter

Radulov, G. I., 2004, Eindhoven: Technische Universiteit Eindhoven. Stan Ackermans Instituut.

Courses

Electronic circuits 2 Electronics: selected topics Semiconductor physics and materials Data converters 2: design Advanced CMOS design