

# IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS

## II: EXPRESS BRIEFS

A PUBLICATION OF THE IEEE CIRCUITS AND SYSTEMS SOCIETY



WWW.IEEE-CAS.ORG

APRIL 2016

VOLUME 63

NUMBER 4

ITCSFK

(ISSN 1549-7747)

---

### *Analog and Mixed Mode Circuits and Systems*

Digital Calibration of Amplifier Finite DC Gain and Gain Bandwidth in MASH $\Sigma\Delta$ Modulators . . . . .	A. Bafandeh and M. Yavari	321
Rank Determination by Winner-Take-All Circuit for Rank Modulation Memory . . . . .	M. Kim and C. M. Twigg	326
A Metastability Error Detection and Reduction Technique for Partially Active Flash ADCs . . . . .	X. Yang, G. Cui, Y. Zhang, J. Ren, and J. Liu	331
A Logic Resistive Memory Chip for Embedded Key Storage With Physical Security . . . . .	Y. Xie, X. Xue, J. Yang, Y. Lin, Q. Zou, R. Huang, and J. Wu	336
An Amplifier-Free Pipeline-SAR ADC Architecture With Enhanced Speed and Energy Efficiency . . . . .	J. Gao, G. Li, L. Huang, and Q. Li	341
Subthreshold Level Shifter With Self-Controlled Current Limiter by Detecting Output Error . . . . .	L. Wen, X. Cheng, S. Tian, H. Wen, and X. Zeng	346
A 2- $\mu$ W 45-nV/ $\sqrt{\text{Hz}}$ Readout Front End With Multiple-Chopping Active-High-Pass Ripple Reduction Loop and Pseudofeedback DC Servo Loop . . . . .	J. Wu, M.-K. Law, P.-I. Mak, and R. P. Martins	351
A High-Gain 1.75-GHz Dual-Inductor Transimpedance Amplifier With Gate Noise Suppression for Fast Radiation Detection . . . . .	I. Kwon, T. Kang, B. T. Wells, L. D'Aries, and M. D. Hammig	356
A Switched-Capacitor Filter With Reduced Sensitivity to Reference Noise for Audio-Band Sigma-Delta D/A Converters . . . . .	S. Woo and J.-K. Cho	361
Sample-and-Hold Asynchronous Sigma-Delta Time Encoding Machine . . . . .	D. Kościelny, D. Rzepka, and J. Szyduczyński	366
A Low-Power Incremental Delta-Sigma ADC for CMOS Image Sensors . . . . .	I. Lee, B. Kim, and B.-G. Lee	371

### *Digital Circuits and Systems and VLSI*

Energy-Efficient Associative Memory Based on Neural Cliques . . . . .	B. Boguslawski, F. Heitzmann, B. Larras, and F. Seguin	376
Efficient Circuit for Parallel Bit Reversal . . . . .	W. Li, F. Yu, and Z. Ma	381

### *Signal Processing*

Generalized Dissipativity Analysis of Digital Filters With Finite-Wordlength Arithmetic . . . . .	C. K. Ahn and P. Shi	386
---	----------------------	-----

### *Nonlinear Circuits and Systems*

Synchronization of Coupled Nonlinear Dynamical Systems: Interplay Between Times of Connectivity and Integral of Lipschitz Gain . . . . .	T. Yang, Z. Meng, W. Ren, and K. H. Johansson	391
--	---	-----

---

(Contents Continued on Back Cover)



*(Contents Continued from Front Cover)*

---

Nonideal Behavior of Analog Multipliers for Chaos Generation . . . . .	396
. . . . . <i>A. Buscarino, C. Corradino, L. Fortuna, M. Frasca, and J. C. Sprott</i>	
<i>Control Theory and Systems</i>	
Leader-Following Consensus of Discrete-Time Multiagent Systems With Encoding–Decoding . . . . .	401
. . . . . <i>H. Li, G. Chen, X. Liao, and T. Huang</i>	
Periodic Event-Triggered Consensus With Quantization . . . . .	406
. . . . . <i>Z. Zhang, L. Zhang, F. Hao, and L. Wang</i>	

---