Proceedings of the

10'th EUROPEAN CONFERENCE ON CIRCUIT THEORY AND DESIGN

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VOL. III of IV

Erik Lindberg (edt.)

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Institute of Circuit Theory and Telecommunication
343 Technical University of Denmark
DK-2800 Lyngby, Denmark
Session I-9
SC and Analog Filters I

Chairman: Yrjö Neuvo

911 J. N. Torry
A Band-pass Transformation for Active Filters

921 P. Bowron, K. A. Mezher and A. A. Muhieddine
Dynamic-Range Prediction of Continuous-Time Active Filters

931 A. Handkiewicz and P. Sniatala
Minimization of Settling Time in SC Networks

936 Marek Nalecz
Simplified Analysis of Arbitrary Switched-Capacitor Networks
Using General-Purpose Circuit Simulation Programs

* 946 F. Gagliardi, G. Carpinelli and P. Verde
Some Considerations About Harmonic Filters Design

coffee break

Session I-10
SC and Analog Filters II

Chairman: Theodore Deliyannis

948 M. M. Doss, A. EL-Wardaney, G. M. Abd-Raheem and M. F. Fahmy
Switched-Capacitor Synthesis via All-Pass Extractions

958 T. Yano, M. Kaneko and A. Nishihara
A Design Method of LDI Leapfrog Filters Having Maximum Number
of Matching Points

968 C. Psychalinos and I. Haritantis
Fully Parasitics Insensitive Leapfrog-Type and Biquad SC
Filters

978 J. T. Taylor
General Realisation of Lowpass Switched-Capacitor and
Continuous-Time Monolithic Filters in State Space Form

988 Adam Dabrowski, Ulrich Menzi and George S. Moschytz
Switched-Capacitor FIR Filters for MFSK Demodulation

lunch break

* manuscript not available at printing deadline
14:00 - 15:40

Session I-11 Special Session
Non-Integer Systems

Chairman: Poul Stangerup

998 A. Oustaloup, P. Lanusse and A. Ballouk
Non-Integer Derivation in Robustness: The Crone Control and the Crone Suspension
(invited paper)

1008 A. Oustaloup, B. Mathieu and P. Melchior,
Edge Detection Using Non Integer Derivation
(invited paper)

* 1019 J.F. Quiniou, D. Wehbi, C. Roques-Carmes
Non-Integer Derivation in Signal Processing
(invited paper)

1020 Poul Stangerup
Implementation of Non-Integer Building Blocks in General-Purpose Simulation Programs
(invited paper)

16:00 - 17:40

Session I-12
Circuits and Systems II

Chairman: Ibrahim N. Hajj

1029 G. Di Cataldo, G. Palumbo, M. Zisa and M. Paparo
Double and Triple Charge Pump Circuit for a Smart Power Device

1039 William J. Adams and J. Ramirez-Angulo
Circuit Implementations of OTA Extended Adjustment/Linearization Via Programmable Mirrors

1048 Fernando Casadevall
On the Performances of the LINC Transmitter

1058 Miroslav Lazic
New Approach to Overload Protection of Power Supplies

1068 Marian Pasko
Symmetrization of Deformed Three-Phase Currents Supplying Asymmetrical Receiver

17:40
Close of Conference

* manuscript not available at printing deadline
Friday 6th September 1991

Lecture Hall "Prometheus"

09:00 - 10:40 Session II-9 VLSI Design II

Chairman: J. K. Fidler

1076 Nasir-Ud-Din Gohar, Peter Y.K. Cheung and Chi K. Pun
RACHANA: A Unified Layout Approach for CMOS Analog Cells

1084 Nicolas C. Battersby and Christofer Toumazou
Class AB Switched-Current Memory for Analogue Sampled-Data

1094 Alison Payne and Christofer Toumazou
Further Development of Current Mode Analog Building Blocks

1103 P. Vanoostende, P. Six, J. Vandewalle and H.J. De Man
Current Calculation for the Design of Reliable CMOS VLSI

1113 Paul Zbinden, Christian Knecht and George S. Moschytz
Automatic Layout Generation of Switched-Capacitor Circuits with ScTool

11:00 - 12:40 Session II-10 VLSI Design III

Chairman: K.J. Antreich

1123 Martin Hasler
Monotonic Dependence in MOS-Transistor Circuits

* 1132 K. Halonen, J. Riihiaho and A. Kivijärvi
Pipelined 1 MHz Analog-to-Digital Converter

1134 C.P. Chong
Edge Detections and Image Segmentations Using Analog VLSI

1144 S. Williams and J.J. O'Reilly
VLSI Realisation of Novel Transmission Coding Algorithms

1154 B.M. Al-Hashimi
On the Implementation of Elliptic Filters Using Current Feedback Amplifiers

lunch break

* manuscript not available at printing deadline

ECCTD-91 PROCEEDINGS

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Friday 6th September 1991

Session II-11
Analysis and Design II
Chairman: Jerzy Debosz

1161 C.M. Vidallon
Multipurpose Asynchronous Parallel Process Circuit Solver
(invited paper)

1171 S.J. Harrold, D.G. Haigh, C. Toumazou, K. Steptoe,
J.I. Sewell and R. Bayruns
A 500MHz GaAs Second-Order Bandpass Switched-Capacitor Filter

1178 V. Georgiev and K. Stantchev
Analysis of Switched-Capacitor Networks with Nonideal
Operational Amplifiers and Nonideal Switches

1188 Aleksander Urbas, Jerzy Osiowski and Bogdan Galinski
Analysis of Continuous-Time MOSFET Filters with Unbalanced
Symmetric Structures

tea break

16:00 - 17:40 Session II-12
VLSI Design IV
Chairman: Norbert J. Fliege

1198 Alfonso Carlesena, Daniel Müller and George S. Moschytz
Resistively Variable Capacitors Using General Impedance
Converters

1211 Ulrich Menzi, Paul Zbinden and George S. Moschytz
Adaptive Switched-Capacitor Filters Based on the LMS Algorithm

1221 Hans Johansson
Monolithic Microwave Active Inductors with High Inductance
Values, High Q-values and Flat Frequency Responses.

1227 Å. Bergquist and B. Carlegrim
Lattice Networks for Broadband Circuits

1233 Neven Mijat and George S. Moschytz
Sensitivity and Logarithmic Gain Slope of Active Filter
Structures

17:40 Close of Conference

* manuscript not available at printing deadline
Friday 6th September 1991

Lecture Hall "302"

09:00 - 10:40

**Session III-9**

*Nonlinear Circuit Analysis*

**Chairman:** Stig Skelboe

1243 Wolfgang Mathis and Leon O. Chua
Applications of Dimensional Analysis in Network Theory

1253 M.I. Sobhy, E.A. Hosny and A.A.A. Nasser
Systematic Analysis Procedure for Chaotic Circuits Containing Transmission Lines

1263 M.M. Milic and V.B. Bajic
A Lyapunov Function for the Analysis of a Class of Singular Systems and Networks

1270 Naohiko Inaba and Shin Kokura
Bifurcation Analyses of a Piecewise-Linear forced Raleigh Oscillator Including a diode

* 1279 Antonio Buonomo
Numerical Analysis of Nonlinear Circuits with Periodic Excitation

* manuscript not available at printing deadline

| coffee break |

11:00 - 12:40

**Session III-10**

*HF and Microwave Circuits*

**Chairman:** Joseph L. Tauritz

1280 B.S. Yarman, A. Aksen and A. Fettweis
An Integrated Design Tool to Construct Lossless Matching Networks with Mixed Lumped and Distributed Elements

1290 Kari Lehtinen, Jukka Laitinen, Tapio Malmivaara and Veikko Porra
Testing the Extended Gummel-Poon Model Accuracy by Periodic UHF Power Transistor Time Domain Measurements

1300 Kari Lehtinen, Tapio Malmivaara, Jukka Laitinen and Veikko Porra
Design and Characterisation of a 50 to 10 Ohm Impedance Transformer for Wideband Time Domain Power Transistor Measurements

1308 Macit Gunes and Filiz Gunes
A New Design Method for Maximum Gain Formulation of a Microwave Amplifier Subject to Noise Figure and Input VSWR

Optical Chip Design with a Microwave CAD-system

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**Friday 6th September 1991**

### Session III-11

**Chairman:** Hans Gaunholt

#### 1324 D. F. Bowers

**A New Configuration for Instrumentation Amplifiers**

#### 1333 Masahiro Yamamoto, Ayumu Kobayashi and Yoshihiko Horio

**Switched Current F/I and I/F Converters**

#### 1341 Michael Vere Hunt and Dr John Lidgey

**Novel Differential Transconductance Cell**

#### 1349 Seppo Ingalsuo, Tapani Ritoniemi and Hannu Tenhunen

**New Differential Amplifier for High Speed SC-circuits**

#### 1359 Qiuting Huang

**A Novel Output Structure for High Speed CMOS Power Amplifiers**

### Session III-12

**Chairman:** Jens Vidkjer

#### 1363 Alfonso Carlosena and Pedro A. Martinez

**Designing Current Conveyor Based Oscillators**

* 1375 **A. Borys**

  **The D.C. Offset in Nonlinear Nearly Sinusoidal Oscillators**

#### 1377 Enrico F. Calandra and Antonino M. Sommariva

**On the Degenerate Phase-Interaction-Free Operation of Multi-Frequency Negative-Conductance Oscillators**

#### 1387 A. Baranyi

**Maximum Locking Range of MESFET Oscillators**

* 1397 **B. Pérez Verdú, J.L. Huertas and A. Rodríguez-Vázques**

  **Modeling and Design of Composite OPAMPs for RC-Active Oscillators**

#### 17:40

**Close of Conference**

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