

JOURNAL OF ELECTRONIC TESTING:  
Theory and Applications  
(JETTA)

JOURNAL OF ELECTRONIC TESTING

JOURNAL OF  
**ELECTRONIC  
TESTING**  
Theory and Applications (JETTA)

Editor in Chief: Vishwani Agrawal

Volume 32, Number 3, June 2016

Editorial

V.D. Agrawal 241

Test Technology Newsletter 243

BOUNDARY SCAN

Optimization of Boundary Scan Tests Using FPGA-Based Efficient Scan Architectures

I. Alekseyev · S. Devadze · A. Jutman · K. Shibin 245

AUTOMATIC TEST EQUIPMENT

Dynamic Power Integrity Control of ATE for Eliminating Overkills and Underkills in Device Testing

M. Ishida · T. Nakura · T. Kusaka · S. Komatsu · K. Asada 257

FAULT TOLERANCE AND RELIABILITY

Identification and Rejuvenation of NBTI-Critical Logic Paths in Nanoscale Circuits

M. Jenihhin · G. Squillero · T.S. Copetti · V. Tihomirov · S. Kostin · M. Gaudesi · F. Vargas · J. Raik · M. Sonza Reorda · L. Bolzani Poehls · R. Ubar · G.C. Medeiros 273

A Fast Statistical Soft Error Rate Estimation Method for Nano-scale Combinational Circuits

M. Raji · B. Ghavami 291

Impact of Fin-Height on SRAM Soft Error Sensitivity and Cell Stability

H. Villacorta · J. Segura · V. Champac 307

NBTI-Aware Design of Integrated Circuits: A Hardware-Based Approach for Increasing Circuits' Life Time

T. Copetti · G. Cardoso Medeiros · L. Bolzani Poehls · F. Vargas 315

HARDWARE SECURITY

Security Path: An Emerging Design Methodology to Protect the FPGA IPs Against Passive/Active Design Tampering

S. Zamanzadeh · A. Jahaniyan 329

Side-Channel Information Characterisation Based on Cascade-Forward Back-Propagation Neural Network

E. Saeedi · M.S. Hossain · Y. Kong 345

Automatic Feature Selection of Hardware Layout: A Step toward Robust Hardware Trojan Detection

A.A. Nasr · M.Z. Abdulmageed 357

JETTA LETTERS

Real-Time Adaptive Test Algorithm Including Test Escape Estimation Method

C. Streitwieser 369

High Performance Significance Approximation Error Tolerance Adder for Image Processing Applications

R. Jothin · C. Vasanthanayaki 377

An SEU-Resilient SRAM Bitcell in 65-nm CMOS Technology

Q. Chen · H. Wang · L. Chen · L. Li · X. Zhao · R. Liu · M. Chen · X. Li 385

A New Capacitance-to-Frequency Converter for On-Chip Capacitance Measurement and Calibration in CMOS Technology

D. Zhu · J. Mo · S. Xu · Y. Shang · Z. Wang · Z. Huang · F. Yu 393

Further articles can be found at [link.springer.com](http://link.springer.com)

Indexed/abstracted in Science Citation Index Expanded (SciSearch), Journal Citation Reports/Science Edition, SCOPUS, INSPEC, Google Scholar, EBSCO, CSA, Academic OneFile, Academic Search, ACM Digital Library, CSA Environmental Sciences, Current Contents Collections / Electronics & Telecommunications Collection, Current Contents/Engineering, Computing and Technology, DBLP, Earthquake Engineering Abstracts, EI-Compendex, Gale, OCLC, Referativnyi Zhurnal (VINITI), SCImago, Summon by ProQuest

Instructions for Authors for *J Electron Test* are available at [www.springer.com/10836](http://www.springer.com/10836).

Volume 32, Number 3, June 2016 241-398

A journal serving electronic test professionals  
in concurrence with the Test Technology Technical Council  
(TTTC) of the IEEE Computer Society



Springer



ISSN: 0923-8174