

Contents

Processor Architecture

Modeling and Analyzing of 3D DRAM as L3 Cache Based on DRAMSim2	3
<i>Litiao Qiu, Lei Wang, Qiang Dou, and Zhenyu Zhao</i>	
Partitioning Methods for Multicast in Bufferless 3D Network on Chip.	13
<i>Chaoyun Yao, Chaochao Feng, Minxuan Zhang, Wei Guo, Shouzhong Zhu, and Shaojun Wei</i>	
Thermal-Aware Floorplanner for Multi-core 3D ICs with Interlayer Cooling	23
<i>Wei Guo, Minxuan Zhang, Peng Li, Chaoyun Yao, and Hongwei Zhou</i>	
The Improvement of March C+ Algorithm for Embedded Memory Test	31
<i>Yongwen Wang, Qianbing Zheng, and Yin Yuan</i>	
Mitigating Soft Error Rate Through Selective Replication in Hybrid Architecture.	38
<i>Chao Song and Minxuan Zhang</i>	

Application Specific Processors

A New Memory Address Transformation for Continuous-Flow FFT Processors with SIMD Extension	51
<i>Chao Yang, Haiyan Chen, Sheng Liu, and Sheng Ma</i>	
Designing Parallel Sparse Matrix Transposition Algorithm Using ELLPACK-R for GPUs	61
<i>Song Guo, Yong Dou, Yuanwu Lei, Qiang Wang, Fei Xia, and Jianning Chen</i>	
Channel Estimation in Massive MIMO: Algorithm and Hardware	69
<i>Chuan Tang, Cang Liu, Luechao Yuan, and Zuocheng Xing</i>	
A ML-Based High-Accuracy Estimation of Sampling and Carrier Frequency Offsets for OFDM Systems	85
<i>Cang Liu, Luechao Yuan, Zuocheng Xing, Xiantuo Tang, and Guitao Fu</i>	
A High-PSRR CMOS Bandgap Reference Circuit	94
<i>Chang Liping, An Kang, Liu Yao, Liang Bin, and Li Jinwen</i>	

Computer Application and Software Optimization

Detection and Analysis of Water Army Groups on Virtual Community 105
Guirong Chen, Wandong Cai, Jiuming Huang, Huijie Xu, Rong Wang, Hua Jiang, and Fengqin Zhang

Accelerating Molecular Dynamics Simulations on Heterogeneous Architecture 118
Yueqing Wang, Yong Dou, Song Guo, Yuanwu Lei, Baofeng Li, and Qiang Wang

A Cloud Server Based on I/O Virtualization in Hardware. 133
Yang You, Gongbo Li, Xiaojun Yang, Bowen Qi, and Bingzhang Wang

The Evolution of Supercomputer Architecture: A Historical Perspective. 145
Bao Li and Pingjing Lu

Technology on the Horizon

Simulation of Six DOF Vibration Isolator System for Electronic Equipment . . . 157
Yufeng Luo, Jinwen Li, Yuanshan Li, and Xu Chen

Impact of Heavy Ion Species and Energy on SEE Characteristics of Three-Dimensional Integrated Circuit. 164
Peng Li, Wei Guo, Zhenyu Zhao, and Minxuan Zhang

Analysis and Simulation of Temperature Characteristic of Sensitivity for SOI Lateral PIN Photodiode Gated by Transparent Electrode. 173
Bin Wang, Yun Zeng, Guoli Li, Yu Xia, Hui Xu, and Caixia Huang

Mitigation Techniques Against TSV-to-TSV Coupling in 3DIC 182
Quan Deng, Minxuan Zhang, Zhenyu Zhao, and Peng Li

Author Index 191