

Poster Sessions Programme

Materials and Devices

Monday, 3 April 2017

- P1.1** *Waveform and Frequency Effects on Reset Transition in Bipolar ReRAM in Flux-Charge Space*
Mohamad Moner Al Chawa, Alberto Rodriguez-Fernandez, M. Bargallo, Francesca Campabadal, Carol de Benito, Stavros Stavriniades, Eugeni Garcia-Moreno, Rodrigo Picos
- P1.2** *Accurate control of admittance parameters of ReRAM devices during writing and erasing operations*
Salvador Duenas, Oscar G. Ossorio, Luis A. Dominguez, Helena Castan, Hector García, Enrique Miranda, Mireia B. González, Francesca Campabadal
- P1.3** *Quantized Conductance in Memristor and Multivalued Logic Applications*
Gang Liu, Run-Wei Li
- P1.4** *Memristive mechanism in ZnO nanowire arrays*
Gianluca Milano, Samuele Porro, Md Younus Ali, Carlo Ricciardi
- P1.5** *Toward Functional Materials for Resistive Switching Memory using Combinatorial Synthesis of Evaporated Thin Films*
Mabkhoot Alsaiani, Brian Hayden
- P1.6** *Effects of electrodes on the electrical properties of Al:TiO_x thin films for ReRAM applications*
Loukas Michalas, Maria Trapatseli, Spyros Stathopoulos, Simone Cortese, Ali Khiat, Themistoklis Prodromakis
- P1.7** *Understanding the Resistive Switching Phenomena of Al/Al₂O₃/Al MIM Devices Fabricated at 300°C from the Dynamics of Conductive Filaments*
Joel Molina
- P1.8** *Resistive switching characteristics of epitaxial NiO_x(100) films on metal seed layers by magnetron sputtering*
Xiaoyan QIU, Ruixue Wang, Minglong Wei, Hong Ji, Ji Yan Dai, Ting Zhang, Lutao Li, Xiangshen Meng
- P1.9** *Electrical and Neuromorphic Multifunction Realized in WO_{3-x}-based Nanoionics Memristive Devices*
Rui Yang, Kazuya Terabe, Zheng-Hua Tan, Xin Guo
- P1.10** *A synaptic transistor based on two-dimensional molybdenum oxide*
Dashan Shang, Chuansen Yang, Nan Liu, Xi Shen, Gang Shi, Richeng Yu, Yongqing Li, Young Sun
- P1.11** *Electrical characterization of filamentary conduction in memristor devices*
Henrique Leonel Gomes
- P1.12** *Organic memristive devices based on Pectin as a solid polyelectrolyte*
Tatiana Berzina, Angelica Cifarelli, Antonella Parisini, Victor Erokhin, Salvatore Iannotta
- P1.13** *Experimental behavior of a NiTi based memristor*
Stavros Stavriniades, Julius Georgiou, Antonios Theodorikakos, Euripides Hatzikraniotis
- P1.14** *α-SiN_x:H as an ultra-low power resistive switching material and supports for high density flash memory*
Zhongyuan Ma, Xiaofan Jiang, Kunji Chen, Ling Xu, Wei Li, Xinfan Huang, Duan Feng
- P1.15** *The improved resistive switching characteristics of the amorphous Si based CBRAM with graphene layer*
Sen Liu, Rongrong Cao, Wei Wang, Haijun Liu, Qingjiang Li, Xiaolong Zhao, Qi Liu, Hui Xu
- P1.16** *Self-assembled atomic-switch networks: Complex dynamics and promise for neuromorphic computation*
Saurabh Kumar Bose, S. Shirai, J. B. Mallinson, S. A. Brown

- P1.17** *Resistive switching in Si thin films based on Ag metallic filaments*
Catarina Dias, Hua Lv, Rodrigo Picos, Paulo Aguiar, Susana Cardoso, Paulo Freitas, João Ventura
- P1.18** *Applying the toolbox of mesoscopic physics to memristive systems: an Andreev spectroscopy study of nanometer-scale Ag-Ag₂S-Nb resistive switches*
András Halbritter, Attila Geresdi, Agnes Gubicza, György Mihály, Miklós Csontos
- P1.19** *Asymmetry-induced resistive switching in Ag-Ag₂S-Ag memristors enabling a simplified atomic-scale memory design*
Miklós Csontos, Agnes Gubicza, David Zs. Manrique, László Pósa, Colin J. Lambert, György Mihály, András Halbritter
- P1.20** *The emergence of multiple time scales during resistance change: a key to nanometer-scale non-volatile memory devices*
Agnes Gubicza, Miklós Csontos, András Halbritter, György Mihály
- P1.21** *Photoresistive switching of multiferroic thin film memristors*
Natasa Samardzic, Jovan Bajic, Branimir Bajac, Vladimir Srdić, Goran Stojanović
- P1.22** *Memristive behavior in atomic layer deposited iron oxides*
Samuele Porro, Alladin Jasmin, Carlo Ricciardi
- P1.23** *Large Room Temperature Magnetoresistance in Electrically-Modulated Magnetic Nano-structure*
Wuhong Xue, Gang Liu, Run-Wei Li
- P1.24** *Dynamic Strain Induced Giant Electroresistance and Erasing Effect in Ultrathin Ferroelectric Tunnel Junction Memory*
Hei Man Yau, Xinxin Chen, Ji Yan Dai
- P1.25** *Low-field Switching Four-state and Strain-Induced Giant Electroresistance Nonvolatile Memory Based on Multiferroic Tunnel Junctions Memory*
Hei Man Yau, Ji Yan Dai
- P1.26** *Memtranstor: a nonvolatile memory based on nonlinear magnetoelectric effects*
Young Sun, Dashan Shang, Yisheng Chai, Jianxin Shen, Junzhuang Cong, Nan Liu, Shipeng Shen
- P1.27** *A memristor with synaptic events of Pt/BaTiO₃/Nb:SrTiO₃ with two different heterostructures*
Rui Guo, Zhuorui Wang, Yaxiong Zhou, Bangmin Zhang, Lijun Wu, Ariando Ariando, T. Venkatesan, Xiangshui Miao, Jingsheng Chen
- P1.28** *Low field conductivity enhancement and resistive switching in bulk oxide ceramics*
Anthony West
- P1.29** *X-ray photoelectron spectroscopy studies of electronic structure of Nd_{2-x}Ce_xCuO_{4-y} and YBa₂Cu₃O_{7-y} epitaxial film surfaces and resistive switching in high temperature superconductors -based heterostructures*
Nataliya Tulina, Andrey Ivanov, Anna Rossolenko, Ivan Shmytko, Andrey Ionov, Rais Mozhchil, Sergey Bozhko, Ivan Borisenko, Vyacheslav Tulin

Theory and Applications

Tuesday, 4 April 2017

- P2.1** *Demonstration of a TiO₂ ReRAM parameter extraction method*
Ioannis Messaris, Alexander Serb, Isha Gupta, Spyros Stathopoulos, Ali Khiat, Spyridon Nikolaidis, Themistoklis Prodromakis
- P2.2** *Complex dynamics of a two component memristor based chaotic oscillator*
Njimboh Alombah
- P2.3** *Hard and soft excitation of the oscillations in memristor-based oscillators with a line of equilibria*
Ivan Korneev, Tatyana Vadivasova, Vladimir Semenov
- P2.4** *On the dynamics of accelerated observers in special relativity theory*
Patrícia Martins, Luís Nero Alves, Joana Catarina Mendes
- P2.5** *On the realization of KHN BiQuad employing programmable memristor*
Hasan Sözen, Uğur Çam
- P2.6** *RF Memristor Modeling*
Nicolas Wainstein, Shahar Kvatinsky
- P2.7** *The Voltage Divider Effect Revisited for Multi-Level Memristor Tuning*
Jorge Gomez, Ioannis Vourkas, Angel Abusleme, Georgios Ch. Sirakoulis, Emili Salvador, Albert Crespo, Rosana Rodriguez, Javier Martin-Martinez, Montserrat Nafria, Antonio Rubio
- P2.8** *On Digitally Emulated MemDevices*
Zdenek Kolka, Viera Biolkova, Jan Voralek, Dalibor Bielek
- P2.9** *Memristors in Excitable Cellular Automata-based Computing Arrays*
Christos Sichonidis, Vasileios Ntinias, Ioannis Vourkas, Georgios Ch. Sirakoulis
- P2.10** *Reconfigurable memristor-based Gain Instrumentation Amplifier*
Michail Pligouroudis, Ali Khiat, Alexandrou Serb, Themis Prodromakis
- P2.11** *A Novel Heterogeneous Memristive XNOR*
Muath Abu Lebdeh, Heba Abunahla, Baker Mohammad, Mahmoud Al-Qutayri
- P2.12** *Flux-Charge Analysis of Memristor Circuits*
Fernando Corinto, Mauro Forti
- P2.13** *In-Storage Implementation of K-Means in Resistive CAM*
Roman Kaplan, Leonid Yavits, Ran Ginosar
- P2.14** *Synaptic Behaviors Mimicked in Polysilicon-Based a CMOS Compatible Crossbar Architecture CBRAM Device*
Umesh Chand, Hossein Fariborzi
- P2.15** *Optimization NbO_x based threshold switches and associated circuits: a path towards large neuristor based circuits*
Melanie Herzig, T. Mikolajick, S. Slesazek
- P2.16** *How much CMOS needs post-CMOS digital memristive computing?*
Dietmar Fey, Daniel Wust
- P2.17** *Cardiac Memristors*
Bharathwaj Muthuswamy, Sunil Mathew
- P2.18** *A Novel Memristor Based Secure Communication System*
Heba Abunahla, Dina Shehada, Chan Yeun, Baker Mohammad

- P2.19** *Modelling of Compact Fluorescent Lamp Characteristics Using Memristor Emulator Circuit*
Cengiz Polat Uzunoglu, Yunus Babacan, Serap Cekli, Firat Kaçar, Mukden Uğur
- P2.20** *Quantum Memristors in Quantum Technologies*
M. Sanz, Enrique Solano
- P2.21** *Dendrito-synaptic memristive circuit*
Ondrej Such, Ondrej Skvarek, Martin Klimo
- P2.22** *Adaptive response of metal-oxide memristive nanostructures to periodic electric stimulation*
Dmitry Korolev, Svetlana Gerasimova, Alexey Belov, Ivan Antonov, Eugene Okulich, Alexey Mikhaylov, David Tetelbaum, Oleg Gorshkov, Victor Kazantsev
- P2.23** *GaN nanomembranes as memristors with self-rectification*
Mircea Dragoman, Vladimir Ciobanu, Daniela Dragoman, Adrian Dinescu, Tudor Braniste, Ion Tiginyanu
- P2.24** *Deep learning with Memristive Spike Time Dependent Plasticity learning.*
Amir Nassibi, Christos Papavassiliou
- P2.25** *Analog electronic synapses for real time neuromorphic computing*
Sabina Spiga, Stefano Brivio, Erika Covi, Jacopo Frascaroli, Daniele Conti, Manu V. Nair, Carlo Ricciardi, Giacomo Indiveri
- P2.26** *Spatial Summation of the Short-term Plasticity of a Pair of Organic Heterogeneous Junctions*
Chiating Chang, Fei Zeng, J.X. Li, W.S. Dong, Yuandong Hu, G.Q. Li
- P2.27** *Unsupervised algorithm of learning recurrent spiking neural networks based on the new interneuron training rules*
Vyacheslav Demin, Dmitry Nekhaev
- P2.28** *Implementing Hodgkin-Huxley Circuit Based on Non-linear Resistor*
Cengiz Polat Uzunoglu, Yunus Babacan, Firat Kaçar
- P2.29** *Partially Interconnected Associative Memories*
Mikhail Tarkov
- P2.30** *Self-assembled atomic-switch network: Complex dynamics and promise for Neuromorphic computation*
Saurabh Kumar Bose, S. Shirai, J. B. Mallinson, S. A. Brown