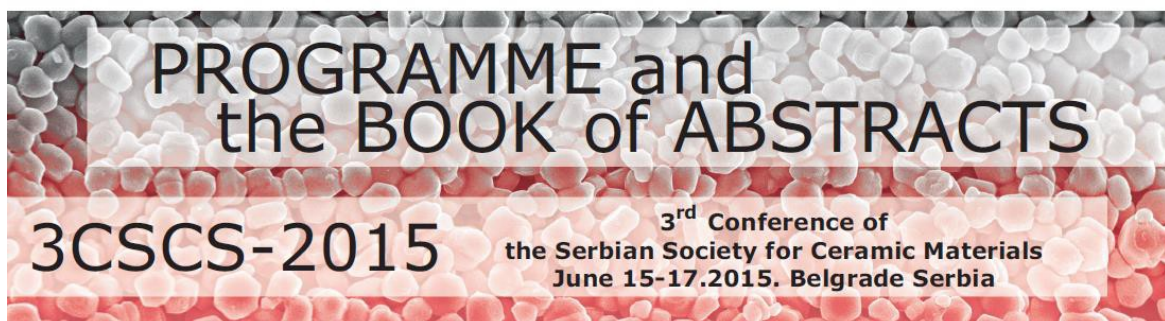


The Serbian Society for Ceramic Materials
The Academy of Engineering Sciences of Serbia
Institute for Multidisciplinary Research - University of Belgrade
Institute of Physics - University of Belgrade
Vinča Institute of Nuclear Sciences - University of Belgrade



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Branko Matović
Zorica Branković
Dušan Bućevac
Vladimir V. Srdić

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PROGRAMME AND THE BOOK OF ABSTRACTS

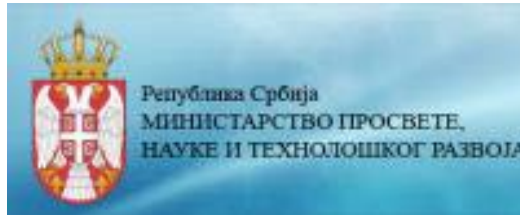
**3rd Conference of The Serbian Society for
Ceramic Materials**

**June 15-17, 2015
Belgrade, Serbia
3CSCS-2015**

Edited by:

**Branko Matović
Zorica Branković
Dušan Bućevac
Vladimir V. Srdić**

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Braća Rajković



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WELCOME MESSAGE

On behalf of the organizers and organizing committee of the 3rd Conference of the Serbian Society for Ceramic Materials (3CSCS-2015), I would like to extend my warmest welcome to all of you for attending the 3CSCS-2015. The conference is hosted and organized by the Serbian Society for Ceramic Materials, and co-organized by Academy of Engineering Sciences of Serbia, Institute for Multidisciplinary Research - University of Beograd, Institute of Physics - University of Beograd, Vinca Institute for Nuclear Sciences - University of Beograd.

The goal of the Conference is to provide a platform for academic exchange among participants from universities, institutes, companies around the region in the field of ceramics research as well as to explore new direction for future development. 3CSCS-2015 aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results about all aspects of Ceramic Materials. It also provides the premier inter-multi-trans-disciplinary forum for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns, practical challenges encountered and the solutions adopted in the field of Ceramic Materials. We have received more than 100 abstracts submitted from 16 countries.

The Conference will feature four plenary lectures, 25 invited talks and more than 80 oral and poster presentations as well as exhibitions of some new ceramic materials and devices. 3CSCS-2015 includes Ceramic Powders, Characterization and Processing, High temperature Phenomena, Sintering, Microstructure Design and Mechanical Properties, Electro and Magnetic Ceramics, Ceramic Composites, Membranes and Multimaterials, Traditional Ceramics and Computing in Materials Science. Exhibitions from company sponsors will be held at the Conference as well.

We are grateful for the support from the Ministry of Education, Science and Technological Development of the Republic of Serbia. We would also like to express our sincere thanks to the symposia organizers, session chairs, presenters, exhibitors and all the Conference attendees for their efforts and enthusiastic support in this exciting time in Belgrade. I look forward to meeting you and interacting with you at Conference.

3CSCS-2015 President

Branko Matovic

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ELECTRICAL PROPERTIES OF BARIUM TITANATE CO-DOPED WITH Nb AND Mn

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A modified Pechini process was used to prepare nanopowders of barium titanate (BT) co-doped with niobium and manganese. Prepared BT compositions were (1) BT doped with 0.4 mol% Nb and 0.1 mol% Mn (BT1); (2) 0.4 mol% Nb and 0.05 mol% Mn (BT2) and (3) 0.8 mol% Nb and 0.01 mol% Mn (BT3). The XRD results of sintered samples showed the formation of barium titanate tetragonal crystal structure. Microstructure was consisted of polygonal grains but the differences in the grain size, homogeneity and porosity between the doped ceramics were noticed. The addition of dopants influenced the grain size and microstructure development. The dielectric measurements of all ceramics showed the behavior of classical ferroelectric material. In comparison with pure barium titanate, structural transition of all co-doped ceramics are shifted to lower temperatures. The real permittivity value increase in all co-doped ceramics in the whole frequency range, reaching much higher values then in pure barium titanate ceramics obtained by polymeric precursors method. The analysis of impedance spectrum at higher temperatures showed the presence of both, grain interior and grain boundary effects.

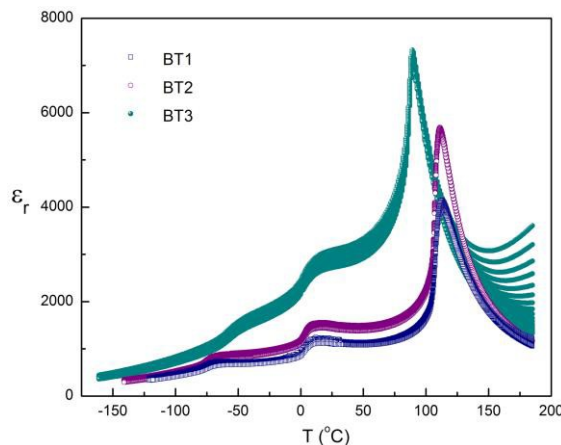


Figure 1. Dielectric constant vs. temperature for co-doped BT ceramics