

The Serbian Society for Ceramic Materials
Institute for Multidisciplinary Research, University of Belgrade
Institute of Physics, University of Belgrade
Center of Excellence for the Synthesis, Processing and
Characterization of Materials for use in Extreme Conditions
"CEXTREME LAB" - Institute of Nuclear Sciences "Vinča",
University of Belgrade
Faculty of Mechanical Engineering, University of Belgrade

A microscopic image of ceramic particles, showing a transition from grey to red. The particles are spherical and densely packed. The text is overlaid on this image.

PROGRAMME and the BOOK of ABSTRACTS

4CSCS-2017

4th Conference of
the Serbian Society for Ceramic Materials
June 14-16.2017. Belgrade Serbia

Edited by:
Branko Matović
Zorica Branković
Dušan Bućevac
Vladimir V. Srdić

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PROGRAMME AND THE BOOK OF ABSTRACTS

**4th Conference of The Serbian Society for
Ceramic Materials**

June 14-16, 2017

Belgrade, Serbia

4CSCS-2017

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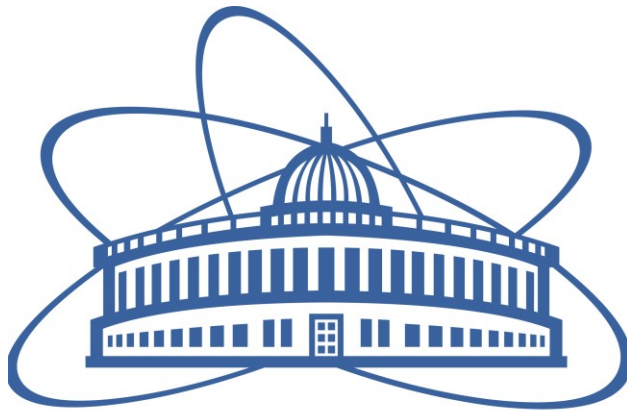
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WELCOME MESSAGE

On behalf of the organizers and organizing committee of the 4th Conference of the Serbian Society for Ceramic Materials (4CSCS-2017), I would like to extend my warmest welcome to all of you for attending the 4CSCS-2017. The conference is hosted and organized by the Serbian Society for Ceramic Materials, and co-organized by Institute for Multidisciplinary Research - University of Beograd, Institute of Physics - University of Beograd, Center of excellence for the synthesis, processing and characterization of materials for use in extreme conditions “CEXTREME LAB” - Institute of Nuclear Sciences Vinca, University of Belgrade and Faculty of Mechanical Engineering, University of Belgrade.

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. 4CSCS-2017 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 15 countries.

The Conference will feature two plenary lectures, 25 invited talks and more than 70, oral and poster presentations as well as exhibitions of some new ceramic materials and devices. 4CSCS-2017 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.

4CSCS-2017 President

Branko Matovic

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CORRELATION BETWEEN STRUCTURE AND ELECTRICAL CHARACTERISTICS IN SAMARIUM DOPED BARIUM TITANATE SYSTEMS

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Conventional solid-state method was used to prepare powders of barium titanate (BT) doped with different concentration of Sm. Influence of Sm addition on the structure modification, grain growth inhibition and microstructure development was studied. Dielectric properties of doped samples were significantly modified. With doping, a diffuse kind of ferro-para phase transition was induced, phase transition positions were moved and dielectric permittivity values were lowered. On the other hand, Sm doping affected the decrease of dielectric losses. The impedance complex plane plots showed a one single semicircular arc, indicating grain contribution as a main effect on the total conduction of the doped materials. On the other hand, different electro-active regions in the modulus plane plots were distinguish. The comparison between impedance and modulus scaling behavior presented the localized movement of charge carriers. P-E hysteresis loops have shown the dilution of ferroelectric properties with Sm doping.

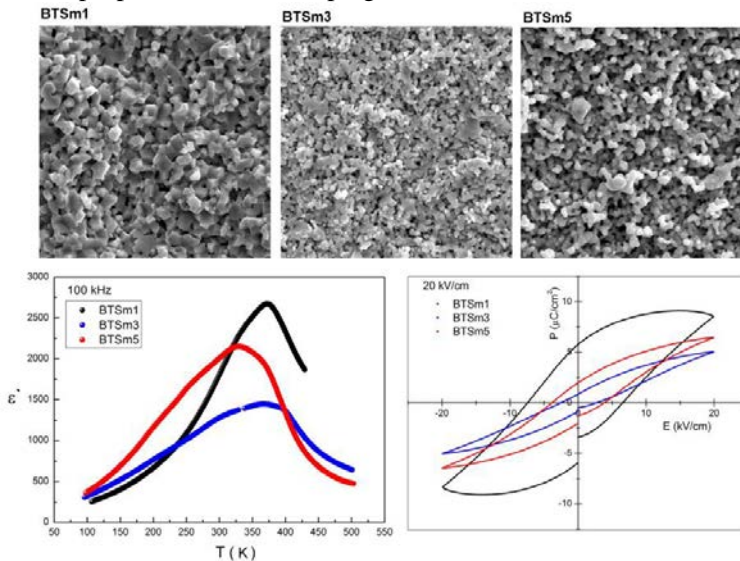


Figure 1. SEM, dielectric and ferroelectric properties of Sm doped barium titanate ceramics