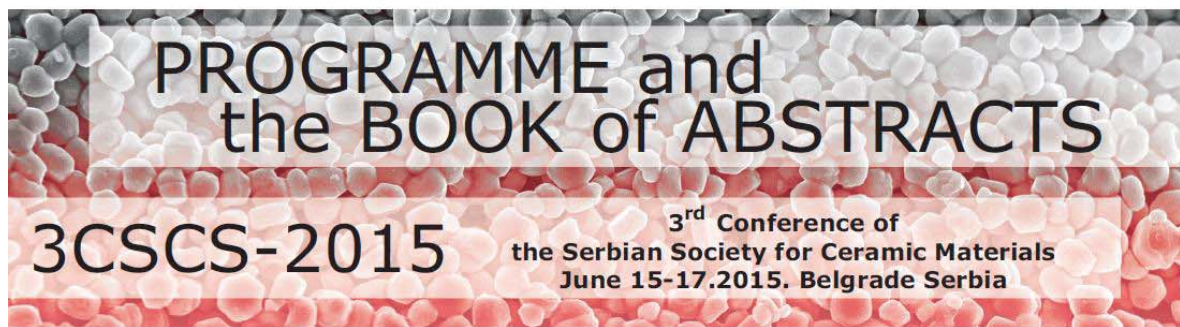


The Serbian Society for Ceramic Materials
The Academy of Engineering Sciences of Serbia
Institute for Multidisciplinary Research - University of Belgrade
Institute of Physics - University of Belgrade
Vinča Institute of Nuclear Sciences - University of Belgrade



Edited by:
Branko Matović
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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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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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**NON-DESTRUCTIVE EVALUATION OF SULFUR-POLYMER
COMPOSITE BEHAVIOR UNDER INDUCED DESTRUCTION
INFLUENCE**

Milica Vlahović¹, Sanja Martinović¹, Tatjana Volkov Husović²

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In order to avoid undesirable effects, caused by interactions between the material and environment, changes in properties of materials during their exploitation periods have to be determined. In this research, the induced destruction methodology was applied for evaluation of material behavior. The methodology is based on the usage of agents in increased concentrations that can lead to destruction of the material (cause changes in physical, chemical and mechanical properties) as fast as possible. Sulfur-polymer composite was exposed to the influence of hydrochloric acid, which was chosen as an induced destruction agent. The analysis of sulfur-polymer composite behavior required methods capable of quantifying the material microstructural characteristics. Since sulfur-polymer composite is inhomogeneous material, evaluation of its properties, as well as the effect of external influence on its microstructure, was investigated using non-destructive methodologies. Image analysis and ultrasonic measurements were applied to quantify the material destruction on the surface and in the bulk. Morphological and structural changes in the inner structure of sulfur-polymer composite were inspected by scanning electron microscopy (SEM). According to the obtained results, used methodologies present a powerful tool for the characterization of phenomena occurring in the specimens during the investigation.