

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 dense arrangement of small, rounded grains. The top half of the image is in grayscale, while the bottom half is in color, showing a gradient from white to red. 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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**4th Conference of The Serbian Society for
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Belgrade, Serbia

4CSCS-2017

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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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IMPLEMENTATION OF IMAGE ANALYSIS ON COMPARISON OF CAVITATION EROSION DEGRADATION OF MULITE AND CIRCON SAMPLES BASED

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Mullite and zircon are widely used for different applications for refractory materials. In this paper their behavior in conditions of the cavitation erosion was investigated. Cavitation erosion testing was applied using standard the ultrasonic vibratory cavitation set up with stationary specimen. Weight loss as well as image analysis were used for comparison of the different samples to the effects of cavitation. In this paper image analysis was implemented for monitoring degradation level during testing, as well as number of formed pits during testing, and their characterization (average diameter and area). Obtained results were discussed in order to compare and analyze resistance of the different materials (mullite and zircon) to the cavitation erosion, as well as used methodology.

Keywords: mullite, zircon, cavitation erosion, image analysis, level of degradation