

The Serbian Society for Ceramic Materials
Institute for Multidisciplinary Research (IMSI), 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
Center of Excellence for Green Technologies, Institute for Multidisciplinary
Research, University of Belgrade
Faculty of Technology and Metallurgy, University of Belgrade

PROGRAMME and the BOOK of ABSTRACTS

6CSCS-2022

6th Conference of
the Serbian Society for Ceramic Materials
June 28-29. 2022. Belgrade Serbia

Edited by:
Branko Matović
Aleksandra Dapčević
Vladimir V. Srdić

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SPECIAL THANKS TO



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WELCOME MESSAGE

On behalf of the organizers and organizing committee of the 6th Conference of the Serbian Society for Ceramic Materials (6CSCS-2022), I would like to extend my warmest welcome to all of you for attending the 6CSCS-2022. The conference is hosted and organized by the Serbian Society for Ceramic Materials, and co-organized by 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, Center of excellence for green technologies, Institute for Multidisciplinary Research - University of Belgrade, and Faculty of Technology and Metallurgy - 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. 6CSCS-2022 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 75 abstracts with researchers from 17 countries.

The Conference will feature two plenary lectures, 16 invited talks and 57 oral and poster presentations as well as exhibitions of some new ceramic materials and devices. 6CSCS-2022 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.

6CSCS-2022 President

Branko Matović

P-24

**WHAT COULD BE THE REASON FOR DIFFERENT BEHAVIOR
OF PHOSPHATE TUNGSTEN AND PHOSPHATE
MOLYBDENUM BRONZES IN BRIGGS-RAUSCHER
REACTION: NEW INSIGHT**

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Recently, two different effects of phosphate tungsten (PWB) and phosphate molybdenum (PMoB) bronzes (obtained by thermal treatment), on oscillatory Briggs-Rauscher (BR) dynamic have been found [1]. Although both are insoluble in BR solution [2], the addition of different masses of PWB linearly decreases the BR oscillation time, while the addition of different masses of PMoB had no effects on the BR reaction. Furthermore, PWB has an identical role as metal catalyst Mn²⁺ in BR reaction and for obtained behavior is probably responsible the different mechanisms of heterogeneous catalysis of these bronzes in oscillatory reaction. Therefore, a deeper investigation was done in order to find the major structural characteristic of these two bronzes by using the XRPD method.

What is so different for these two bronzes, causing dissimilar effects in BR reaction, is it “just” catalytic activity of central cation or there is something more? The XRPD method confirmed very different structures of PWB and PMoB as monoclinic and orthorhombic, respectively [3,4]. This work tries to connect the structural properties of PWB and PMoB with BR oscillatory reaction responses, expanding the usage of oscillatory reaction in material science and catalysis, in general.

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