

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

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Branko Matović
Aleksandra Dapčević
Vladimir V. Srdić

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**BEHAVIOUR OF Mg AND Si SUBSTITUTED
HYDROXYAPATITES IN MODEL MEDIA**

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Thanks to its similarity with biological apatite found in vertebrate hard tissues, calcium hydroxyapatite is one of the most investigated materials in bone tissue engineering. Since biological apatite is not stoichiometric, ion substituted hydroxyapatites are in the focus of many studies as they more closely mimic the composition of natural bone. Although there are many investigations of the influence of foreign ions on the structure and physico-chemical properties of ion-substituted hydroxyapatites, there is no much information on their behaviour in different media.

In present study, magnesium - which plays a key role in bone metabolism and silicon - which is necessary for normal skeletal development, were used as ion substitutes. The behaviour of Mg and Si substituted hydroxyapatite in simulated body fluid and physiological solution was investigated by XRD, FTIR and SEM. Obtained results confirmed great potential of these substituted hydroxyapatites for biomedical applications.