

**The Serbian Ceramic Society
Vinča Institute of Nuclear Sciences, University of Belgrade
Institute for Multidisciplinary Research, University of Belgrade
Institute of Physics, University of Belgrade**

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**Društvo za Keramičke Materijale Srbije
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Institut za multidisciplinarna istraživanja, Univerzitet u
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Institut za fiziku, Univerzitet u Beogradu**

**PROGRAM I KNJIGA APSTRAKATA
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THE INFLUENCE OF VO₂ ON HYDROGEN DESORPTION PROPERTIES OF MgH₂

Sanja Milošević, Željka Rašković, Sandra Kurko, Ljiljana Matović,
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Hydrogen storage is a key enabling technology for the development of hydrogen and fuel cell power technologies in transportation, stationary, and portable applications. On-board hydrogen storage is considered to be the most challenging aspect for the successful transition to a hydrogen economy. Modified nanostructure materials offer promise for superior hydrogen storage due to short diffusion distances, new phases with better capacity, reduced heats of adsorption/desorption, faster kinetics. We have investigated the possible use of VO₂ as a possible destabilization agent of MgH₂ by means of DTA, XRD and SEM analysis. It has been shown that use of nanostructured VO₂ dramatically decrease the MgH₂ desorption temperature.

INVESTIGATION OF Cl⁻ AND SO₄²⁻ ANION ABSORPTION IN NATURAL SOILS

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In this paper, the results of vertical chloride and sulphate anions migration in soil are presented. The soil was contaminated with NaCl and CuSO₄. Anions migration were monitored during one hydrological year (425 days). First sample was taken after 150 days and next following sample was taken after 50 days. Before the profile contamination physical and chemical analysis of soil has been done. The obtained results shows that chloride concentration in soil was in the range from 0,67 mgkg⁻¹ up to 11,92 mgkg⁻¹, while sulphate concentration was in the range from 0,65 mgkg⁻¹ up to 9,79 mgkg⁻¹.