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 for Green Technologies, Institute for Multidisciplinary Research, University of Belgrade
Faculty of Technology and Metallurgy, University of Belgrade
Faculty of Technology, University of Novi Sad

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PROGRAMME AND THE BOOK OF ABSTRACTS

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diatomaceous earth. These powders were characterized, and their visible light photocatalytic activity for decomposition of some organic dyes was tested in acidic, close-to-neutral and alkaline conditions. Fenton-like catalysis was also tested for those materials. Influence of synthesis method, microstructure, ageing and composition on dye degradation helped in proposing the mechanism of adsorption and photocatalytic processes.

1. G. Catalan, J.F. Scott, *Adv. Mater.*, **21** (2009) 2463

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NANOCRYSTALLINE IRON-MANGANITE ($FeMnO_3$) APPLIED FOR HUMIDITY SENSING

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Nanocrystalline iron manganite was synthesized using a sol-gel self-combustion method with glycine as fuel, followed by calcination at 900 °C for 8 hours. Structural characterization was performed using X-ray diffraction (XRD) and field emission scanning electron microscopy (FESEM). It confirmed the formation of nanocrystalline iron-manganite with a perovskite structure. Humidity sensing properties of bulk and thick film samples of the obtained nanocrystalline iron manganite powder were analyzed. Organic vehicles were added to the powder to form a thick film paste that was screen printed on alumina substrate with test PdAg interdigitated electrodes. Impedance response of bulk and thick film samples was analyzed in a humidity chamber in the relative humidity range 30-90% in the frequency range 42 Hz to 1 MHz in view of applying iron-manganite for humidity sensing applications.