

**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**

PROGRAM AND THE BOOK OF ABSTRACTS

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Institut za multidisciplinarna istraživanja, Univerzitet u
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Institut za fiziku, Univerzitet u Beogradu**

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SYNTHESIS AND CHARACTERIZATION OF CERAMIC COMPOSITE MATERIALS BASED ON SILICON-CARBIDE AND CORDIERITE MATERIALS

Milica Posarac¹, Marija Dimitrijevic², Jelena Majstorovic³,
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Composite materials based on SiC and cordierite materials offer combination of properties that are desirable for high-temperature structural applications such as: high thermal stability, low thermal expansion coefficient, good thermal conductivity and good thermal shock resistance. Cordierite was synthesized from spinel, quartz and alumina and used as starting material for SiC/cordierite composite ceramics with weight ratio 70:30. Thermal stability of composite materials was investigated by water quench method. Microstructural investigation of samples after quenching was conducted by SEM and phase analysis was done by XRD.

SOLVOTHERMAL SYNTHESIS OF TI DOPED ZnO

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Titanium doped zinc oxide powders were synthesized by solvothermal method. Polycrystalline powders of ZnO with different amounts of Ti -Zn_{1-x}Ti_xO (x=0, 1, 2, 5, 7.5, 10 at%) were obtained from ethanolic solution of zinc acetate dihydrate in the presence of lithium hydroxide and titanium citrate. Reaction was conducted in autoclave at 225 °C and 42 bar for 6 h. Detailed structural analysis was carried out using X-ray diffraction (XRD) and scanning electron microscopy (SEM). Based on obtained results mechanism of Ti incorporation in ZnO lattice was discussed.