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ADVANCED CERAMICS AND APPLICATION

Organized by
Serbian Ceramic Society
&
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PROGRAM AND THE BOOK OF ABSTRACTS

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Electrical Properties of Sintered Magnesium- titanate Ceramics

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Mixtures of MgO and TiO_2 were mechanically activated in a planetary ball mill for different time intervals. Thus obtained powders were sintered in a furnace for 2 h at temperature of 1300 ^oC in air atmosphere. Raman scattering spectroscopy at room temperature has been used for characterization of sintered samples. Very similar spectra for all samples were observed, which indicate that there has been structure recovery during treatment at higher temperature. SEM analyses were performed in order to investigate effect of activation and sintering process on microstructure. Electrical measurements showed difference in dielectric constant (ε_r), loss tangent (tgδ) and specific resistance (ρ) as a function of time of mechanical treatment. The aim of this paper was to determine optimal parameters for materials preparation with a goal to obtain dense ceramic with appropriate characteristic.