



**Serbian Ceramic Society Conference
ADVANCED CERAMICS AND APPLICATION V
New Frontiers in Multifunctional Material Science and Processing**

**Serbian Ceramic Society
Institute of Technical Sciences of SASA
Institute for Testing of Materials
Institute of Chemistry Technology and Metallurgy
Institute for Technology of Nuclear and Other Raw Mineral Materials
School of Electrical Engineering and Computer Science of Applied Studies**

PROGRAM AND THE BOOK OF ABSTRACTS

**Serbian Academy of Sciences and Arts, Knez Mihailova 35
Serbia, Belgrade, 21st-23rd September 2016.**

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between different structures. Second-order statistical methods are widely available for point patterns. Important devices for the second-order analysis of cells and organelles when regarded as points in space have recently been devised. Analogous methods extend to higherdimensional quantities such as surface areas and volumes.

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Changes of High Purity $\text{Bi}_{12}\text{GeO}_{20}$ Single Crystal Properties Induced by Femtosecond Pulsed Laser Irradiation

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It had been shown that a femtosecond pulsed laser irradiation can improve optical properties of $\text{Bi}_{12}\text{GeO}_{20}$ single crystals. We investigate if the effect occurs if the crystals are grown from high purity components. The samples were irradiated by a femtosecond pulsed laser beam of increasing power. After irradiation, intensity of Raman spectra peaks increased, except for the peak at 203 cm^{-1} , whose intensity decreased. The irradiation also changed the sample color. The induced changes were less intense than was the case when the crystal was grown from components of lesser purity.

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MATERIAL CHARACTERIZATION SEM MODERN METODS

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Detailed analysis was carried out and systematization of methods used in the characterization of materials using SEM. We analyzed its operation. Attention was paid to its major parts. Specially to the electron gun and lens. Also, comparisons of forming character oprickim microscope and SEM. In further analysis we have studied differences between EDS and WDS.. The EDS features measurement with a small probe current, short-time acquisition of spectra, etc. WDS features a high energy (wavelength) resolution, detection of trace elements. Most SEMs are equipped with an EDS, whereas a WDS is generally used as an Electron Probe Microanalyzer (EPMA) that mainly performs elemental analysis.