

Programme & The Book of Abstracts

Nineteenth Annual Conference

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Organised by

MATERIALS RESEARCH SOCIETY OF SERBIA

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NINETEENTH ANNUAL CONFERENCE

YUCOMAT 2017

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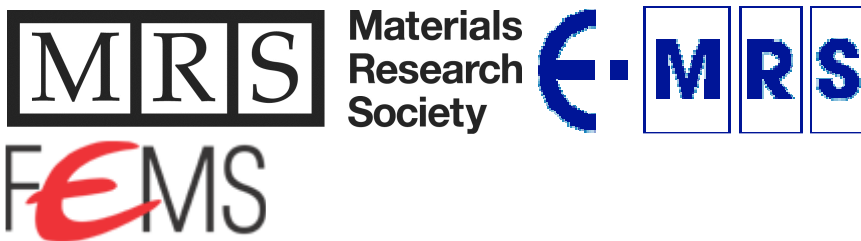
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P.S.C.12.

Spectral analysis of the ordering effect of starch coated magnetite nano-particles

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The aim of this work was to investigate changes of the optical transmittance of the ferrofluid suspension in a magnetic field. Magnetite nanoparticles coated with starch have been synthesized using a coprecipitation method. The effects of magnetic field on magnetic particles in suspension were examined in detail. That was tracked by white-light and laser irradiation of the sample and measuring a transparency of ferrofluid suspension. We have paid special attention on the spectral region in which the greatest changes of intensity of transmitted light corresponds to the wavelength range of 650-670 nm. In this spectral region a lot of monochromatic sources of coherent radiation are developed, and often used for therapeutic purposes.

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P.S.C.13.

Electrospun PMMA nanofibers doped with CdSe/ZnS core shell quantum dots

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This paper presents processing and characterization of composite nanofibers poly (methyl methacrylate)- CdSe/ZnS core shell quantum dots (QD). Nanofibers of pure PMMA and composites with 0.06 % wt. CdSe/ZnS core shell quantum dots nanoparticles were made using electrospinning method. Characterization of starting components and composites was performed in order to obtain information of their morphology, structure, thermal stability, mechanical and optical properties. DSC analysis has shown an increase in T_g for composite with QD. Optical studies by time resolved laser induced fluorescence (TR-LIF) showed that the size-tunable optical properties can be achieved in the polymer nanofibers by addition of quantum dots.