

Design and Synthesis of Gradient Nanocomposite Materials

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Abstract : Organic-Inorganic hybrid materials consisting of graded distributions of inorganic nano particles in organic polymer matrices were successfully prepared by the sol-gel process. Optical and surface properties of the resulting nano composites can be manipulated by changing their compositions and nano particle distribution gradients. Applications of gradient nano composite materials include sealants for LED packaging and screen lenses for smartphones. Optical transparency, prism coupler, TEM, SEM, Energy Dispersive X-ray Spectrometer (EDX), Izod impact strength, conductivity, pencil hardness, and thermogravimetric characterizations of the nano composites were performed and the results will be presented.

Keywords : Gradient, Hybrid, Nanocomposite, Organic-Inorganic

Conference Title : ICNSE 2015 : International Conference on Nanomaterials Science and Engineering

Conference Location : Istanbul, Türkiye

Conference Dates : July 29-30, 2015