

El GHPO del IUFACyT, invita a asistir al seminario que impartirá el Prof. Yasuo Tomita, de perteneciente a la University of Electro-Communications, Chofu, Tokyo, Japón:

Viernes, 5 de septiembre, de 12:00 a 13:00 h:

CHARACTERIZATION AND APPLICATIONS OF HOLOGRAPHICALLY STRUCTURED NANOPARTICLE-POLYMER COMPOSITE GRATINGS

Lugar: Aula 13 del Taller de Imagen de la Universidad de Alicante (situado detrás del edificio Politécnica II).

We describe a new class of holographic nanocomposite photopolymer, the so-called photopolymerizable nanoparticle-polymer composite (NPC), where inorganic or organic nanoparticles are uniformly dispersed in photopolymer host being capable of free radical-mediated chain-growth or step-growth (thiol-ene, thiol-yne) photopolymerizations. The distribution of dispersed nanoparticles can be assembled holographically in NPCs. This method enables us to perform the single step formation of holographic volume gratings and multi-dimensional photonic crystal structures in large size for light and neutron beam control and processing. The inclusion of nanoparticles also increases the refractive index modulation and the recording sensitivity with reduced shrinkage and high thermal stability. We describe the photopolymerization and holographic recording properties of NPCs and their versatile applications in photonics and neutron optics including shift-multiplexed holographic digital data page storage, nonlinear optics and slow-neutron beam manipulation.



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