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## Synthesis and thermoluminescence characterization of nano and micro-crystals of LiF doped with Ag

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The fabrication and characterization of crystals of LiF with and without Ag is reported. We used chemical co-precipitation route for the synthesis of well-crystallized micro- and nanocrystalline cubes of pure and silver (Ag)-doped LiF. All samples were subjected to x-ray emission and were analyzed results. The as-synthesized samples were characterized by Thermoluminescence (TL), x-ray diffraction (XRD), scanning electron microscopy (SEM), absorption spectrum, photoluminescence (PL) and Raman spectroscopy. Size of the produced cubes could be controlled in the range 10  $\mu\text{m}$ –70 nm by varying the solvent: co-solvent ratio. Micro-sized cubes could be grown in the presence of water as a solvent, while ethanol, which acts as a co-solvent, is found to be effective in reducing the size to the nanoscale. XRD results show complete crystalline structures, while that doped with Ag shows a prominent band at 420 nm.

### Biography

Miguel Á Vallejo has completed his PhD from Centro de investigaciones en óptica (CIO) México. He is Associate Professor "B" of Universidad de Guanajuato in División de Ciencias e Ingenierías (DCI) León Gto, México. He has published more than 3 papers in reputed journals and has applied for membership in the National System of Researchers (SIN) in Mexico. He is an expert in materials synthesis, in his work we can find photonic crystals, crystal growth with LHPG, glasses doped with rare earth containing Ag nanoparticles.

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