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DELFINO REYES: Laser ablated/fragmented carbon materials for the production of photoluminescent nanocolloids.

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The laser ablation of solids in liquids (LASL) is a novel and growing route for the synthesis of nanomaterials. It is mainly based on two approximations: the laser ablation of solid targets and the laser fragmentation of suspended powders or micromaterials. In both, the laser, solvent and solid target and/or the suspended material can be tuned in order to reach the desired nanomaterials. In this talk, results concerning to the laser ablation of a graphite solid target for the production of carbon nanodots-based nanocolloids or the laser fragmentation of functionalized multiwall carbon nanotubes or carbon black microspheres to synthesize carbon nanocages and/or carbon dots-colloids will be presented and discussed. For all the obtained nanocolloids, the optical features were analyzed by absorbance and photoluminescent spectroscopies while its structural properties of the produced carbon nanomaterials were analyzed through TEM and Raman techniques. The physical mechanism for the formation of the nanomaterials is discussed and their optical and structural features are correlated with the experimental parameters of synthesis.

Session Classification: SHORT TALKS

Track Classification: SYMPOSIUM ON LASER ABLATION