

VII Leopoldo García-Colín Mexican Meeting on Mathematical and Experimental Physics



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SANTIAGO CAMACHO: Short and ultrashort pulsed laser processing of materials at CICESE.

Tuesday, 18 February 2020 12:45 (45 minutes)

CICESE was the first institution in México to build and operate (three decades ago) an ultrashort pulse laser system in México. In year 2003 we created the laboratory of ultrashort pulse lasers and processing of materials. Since then we have consolidated a research group that focuses on the following topics: fs laser-induced metallic oxides; fs laser-writing of photonics structures in transparent materials with special interest on polycrystalline ceramics; laser-induced periodic surface structures (LIPSS); synthesis of core-shell nanoparticles by laser ablation of solids in liquids; and laser-induced cavitation focused on medical applications. Some relevant results are the rapid formation of multiple phase nanostructured metallic oxides; laser-induced index shaping through oxygen vacancy suppression; transition from plasmonic to dielectric LIPSS; luminescent Bi@C nanoparticles; and the measurement of intraocular pressure through laser-induced cavitation. In this presentation, we will elaborate on the research group activities, our current infrastructure and potential collaborations we are open to.

Session Classification: PLENARY TALKS

Track Classification: SYMPOSIUM ON LASER ABLATION