

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



Contribution ID: 75

Type: **not specified**

SHARMA KANAKKILLAM: Pulsed laser fragmentation of nanostructured ZnO-Co₂O₃ materials for solar photocatalysis.

Monday, 17 February 2020 17:15 (15 minutes)

Photocatalysis is an emerging field in which the solar energy/visible light is utilized for different types of catalytic applications including elimination of contaminants from water, air, soil, water splitting mechanisms, sterilization etc. Metal oxide nanoparticles and its different categories like modified metal oxides, nanocomposites, hybrids etc. were used commonly for photocatalytic applications. Here we modified zinc oxide nano powders with cobalt oxide by a simple unique synthesis technique called pulsed laser fragmentation in liquid. The modification was conducted by pulsed laser fragmentation of cobalt oxide powder in water to make a stable nanocolloid. Then zinc oxide powder was mixed to it and laser irradiation was carried out. All these processes finished within 45 minutes so that green powders were obtained. The synthesized powders were taken for characterization techniques like UV-Visible spectroscopy, XPS, Raman, SEM etc. Their photocatalytic properties were studied using degradation of dyes under visible light irradiation. Details of the characterization, properties and photocatalysis are included in this work.

Session Classification: SHORT TALKS

Track Classification: SYMPOSIUM ON LASER ABLATION