

Commentary

SnO₂ quantum dots for Second Harmonic Generation

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Abstract

We report the preparation, characterization and second harmonic generation in SnO₂ quantum dots. For preparation of SnO₂ quantum dots, the simple, cost effective chemical method has been adopted. After synthesis, the samples have been characterized by UV/VIS absorption spectroscopy and Transmission Electron Microscopy. These studies infer the SnO₂ particle size to be within 10 nm. Further, SnO₂ specimen has been tested for second harmonic generation. For that, SnO₂ samples have been illuminated with Nd: YAG laser beam of 700 nm of wavelength and the optical output is detected at a wavelength of 350 nm. This shows that SnO₂ quantum dots can be used for the purpose of second harmonic generation.

Keywords: Non-linear optical phenomena, Quantum Dots, Second Harmonic Generation

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