Iranian Journal of Physics Research, Vol. 21, No. 1, 2021
DOI: 10.47176/ijpr.21.1.41034

Investigation of nonlinear optical properties of Eosin-B nanoparticles painted

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(Received 2 April 2020 ; in final form 20 December 2020)

Abstract

In this study the nonlinear optical properties of Eosin-B dye nanoparticles were studied using the scanning-fluorescence spectrophotometer and fluorometer method. The nano water droplet in the oil medium is prepared by a combination of hexane and surfactant water, which is painted inside the drop by Eosin-B. The droplet size was studied on a nonlinear refractive index using a 532 nm laser with a scanning power of 80 mW. The results show that the surface effects on the nano-droplets cause the droplets to have a larger nonlinear refractive index. This change was due to a decrease in the accumulation of dyes inside the droplet as well as a decrease in the polarity of the drop solvent relative to the water solvent.

Keywords: group Eosin-B, nonlinear optics, Z- scan. nonlinear refractive index

For full article, refer to the Persian section