

Polymer composition influence on optical properties of laser-generated Au nanoparticles based nanocomposites

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Au nanoparticles (AuNPs) stable colloid solution were prepared by laser ablation and fragmentation in liquid monomer isodecyl acrylate (IDA). Sizes of obtained nanoparticles were determined by scanning transmission electron microscopy (STEM) and were about 20 nm. Nanocomposites films were prepared from obtained stable colloid solution by UV–photocuring. To prepare solid polymer films different cross-linking diacrylates were used. Third-order nonlinear optical responses of prepared nanomaterials with different polymer matrix compositions were estimated by z -scan technique and compared.

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