Laser induced elastooptics in novel Bi₂O₃ and Pr₂O₃ doped tellurite rich glasses

ABSTRACT

We have studied the laser stimulated effects in 70TeO₂-10ZnO-10WO₃-5TiO₂-5Na₂O (mol%) glasses doped with 1…5 mol%, of Bi₂O₃, and Pr₂O₃, respectively. The photoinduced processes were performed using two coherent beams of 532 nm doubled frequency Nd: YAG pulsed laser at angles varying within 28 to 26 degree. The low-power 532 nm beam has served as a probing one for detection of photoinduced changes. The crucial dependence on the Pr³⁺ and Bi dopants was observed. This one allows using these compounds for the laser operated optical devices.

Keyword: Optoelectronic materials; Tellurite glasses; Laser induced effects