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

ABSTRACT

We have studied the laser stimulated effects in 70TeO_2 -10ZnO- 10WO_3 - 5TiO_2 - $5\text{Na}_2\text{O}$ (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