Laser induced elastooptics in novel Bi_2O_3, and Pr_2O_3 doped tellurite rich glasses

ABSTRACT

We have studied the laser stimulated effects in $70TeO_2$-$10ZnO$-$10WO_3$-$5TiO_2$-$5Na_2O$ (mol%) glasses doped with 1…5 mol%. of Bi_2O_3, and Pr_2O_3, 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 Pr^{3+} 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