Pulsed laser induced switching of birefringence in nematic phase of photochromic molecules.

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Streszczenie

Fast and dynamic switching of liquid-crystalline photochromic system birefringence induced by pulsed laser has been observed. The system consisted of photochromic molecules of 4-heptyl-4′-methoxyazobenzene showing liquid-crystalline nematic state close to the room temperature. Experiment of dynamic birefringence switching was done in optical Kerr effect (OKE) set-up, where for the sample excitation picosecond pulsed laser was used. Simultaneously, He□Ne laser was served as a probe beam source. Measurements were done for different voltages applied to the sample. Rise time constant was in the range of microseconds. Full reversibility of the OKE signal was observed.

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