

CUBIC SUSCEPTIBILITY
AND HYPERPOLARIZABILITY
OF THE LYOTROPIC LIQUID
CRYSTAL-VIOLOGEN SYSTEM

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S u m m a r y

Nonlinear optical properties of the “lyotropic liquid crystal-viologen” system are investigated. The system shows electrochromism under the action of an external electric field. For the colored samples, the recording of dynamic holographic gratings is obtained, by using the pulse laser method. The main characteristics of a recording on such samples are studied. On their base in view of the electrooptical properties of the system, the mechanism of the recording of gratings is proposed. The recording is realized due to a change in the polarizability of the π -electron system of viologen derivatives under the action of an intense laser radiation. The main nonlinear optical parameters (n_2 , $\chi^{(??)}$, γ) of the system under study are determined.