

ENERGY GAIN AT TWO-BEAM COUPLING  
IN THE ORIENTATIONALLY INHOMOGENEOUS  
LIQUID CRYSTAL

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S u m m a r y

The two-beam energy transfer at the director diffraction grating in a flexoelectric liquid crystal cell is theoretically studied. The grating is recorded by a space-charge electric field penetrating into the liquid crystal from photorefractive substrates of the cell. In the geometric optics approach, the system of coupled wave equations is derived, and the signal gain coefficient is calculated. It is shown that the orientational inhomogeneity of a liquid crystal significantly influences the value and the type of the gain coefficient dependence on the grating spacing.