

THERMOOPTICAL GENERATION  
OF ACOUSTIC WAVES UNDER FLASH  
ILLUMINATION OF SINGLE CRYSTALS

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S u m m a r y

The thermo-optical generation of acoustic waves in single crystals (LiNbO<sub>3</sub>, GaAs, CdTe) due to the absorption of intense short-duration light pulses available from a Q-switched ruby laser ( $\lambda = 694$  nm,  $\tau = 20$  ns) is investigated. The transformation efficiency of optical energy to acoustic energy is determined to have a value of about  $10^{-7}$  -  $10^{-6}$  for the investigated materials. The amplitude of the surface displacement and the value of the effective pressure accompanying the acoustic wave propagation are estimated. The direct registration of the acoustic response was made for LiNbO<sub>3</sub> single crystals.