135. Title: Nonlinear optical detection of terahertz-frequency radiation in crystals with periodic domain structure

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Abstract: The temporal and spectral characteristics of the terahertz response are measured for crystals of doped lithium niobate with an as-grown domain structure. It is shown that the crystals can be used for narrow-band generation and detection of terahertz waves in the processes of nonlinear-optical conversion of the laser radiation frequency. Frequency tuning in the range from 0.5 to 2.5 THz can be performed, due to both variations in the domain structure period and changes in the nonlinear-optical interaction geometry.