

BARIC CHANGES OF THE OPTICAL  
INDICATRIX OF  $K_2Ca(SO_4)_2 \cdot H_2O$  CRYSTALS  
IN THE REGION OF INVERSION OF THE  
BIREFRINGENCE SIGN

*B. V. Andrievsky, R. S. Brezvin<sup>1</sup>, G. M. Romanyuk<sup>1</sup>*

Ivan Franko Lviv State University  
(8, *Kyrylo and Mefodiy Str., Lviv 79005, Ukraine*),

<sup>1</sup>Institute of Physical Optics  
(23, *Dragomanov Str., Lviv 79005, Ukraine*)

S u m m a r y

Spectral (300 - 700 nm), temperature (293 - 450 K), and baric (0 - 250 bar) changes of birefringence of  $K_2Ca(SO_4)_2 \cdot H_2O$  crystals, which are characterized by spectral inversion of the birefringence sign (SIBS), are experimentally studied under a uniaxial stress. The greatest piezooptical coefficient by birefringence ( $\pi_{km}$ ) is detected in the direction of light propagation along the X-axis of the crystal (the direction of SIBS  $\Delta n_x = 0$ ) at the stress acting along the Y-axis:  $\pi_{12} = - 1,7 \cdot 10^{-12} \text{ m}^2/\text{N}$ . The character of the spectral dependence of birefringence  $\Delta n_x(\lambda)$  in the region of the SIBS point is changed, that is caused by the interaction of the corresponding orthogonal light modes.