THERMAL EXPANSION OF THE $LiKB_4O_7$ AND $CsLiB_6O_{10}$ SINGLE CRYSTALS

V.T. Adamiv, Ya.V. Burak, I.S. Girnyk, I.M. Teslyuk

Institute of Physical Optics
(*23, Dragomanova Str., Lviv 79005, Ukraine;*
e-mail: burak@ifo.lviv.ua)

S u m m a r y

The results of dilatometric investigations of the thermal expansion coefficients performed over a wide temperature range for $LiKB_4O_7$ and $CsLiB_6O_{10}$ single crystals are presented. It is shown that all the thermal expansion coefficients α_{ij} are positive for $LiKB_4O_7$ crystals, while some of them are negative for $CsLiB_6O_{10}$ ones. This can be explained with the use of the 'membrane' effect model that is typical of the corrugated and spiral structures. It is concluded that the temperature changes in a phonon spectrum also influences the character of the $\alpha_{ij}(T)$ dependences.