Photovoltaic and Photorefractive Phenomena in Ferroelectric Rb₂ZnBr₄

Terutaro Nakamura, V. Fridkin[†], R. Magomadov[†], Masaaki Takashige and K. Verkovskaya[†]

The Institute for Solid State Physics, The University of Tokyo, 7-22-1 Roppongi, Minato-ku, Tokyo 106

†The Institute of Crystallography of the Academy of Sciences of the USSR, Leninski pr. 59, Moscow 117333, USSR

This is the first observation of the anomalous photovoltaic effect in a crystal with the very low value of the spontaneous polarization. The Glass constant $k = 1.2 \cdot 10^{-9}$ AcmW⁻¹ is of the same order of magnitude as those of LiNbO₃:Fe and other oxygen octahedra fer-

roelectrics. The photorefractive effect is understood to be caused by the photovoltaic effect. The anomalous photovoltaic effect, and also, the photorefractive effect are observed only in the ferroelectric phase. The results were published in J. Phys. Soc. Jpn. 48 (1980) 1588.