Electric properties of $(C_3H_5N_2)_5Bi_2Cl_{11}$ crystal in the paraelectric-ferroelectric phase.

Autorzy

M. Zdanowska-Frączek

M. Wysocka

Z. J. Frączek

Ryszard Jakubas

Rok wydania

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The dielectric properties and conductivity of the $(C_3H_5N_2)_5Bi_2Cl_{11}$ crystals (abbreviated as ICB) in the paraelectric–ferroelastic phase have been studied by impedance spectroscopy as a function of temperature. The low frequency anomaly of the electric capacitance observed in ICB crystal has been found to be qualitatively similar to that observed at the superionic phase transitions in some protonic conductors.The $(C_3H_5N_2)_5Bi_2Cl_{11}$ crystals have been shown to be characterized by considerably high (10^{-2} S/cm) conductivity above 293 K. The nature of this conductivity seems to be based on a Grotthuss mechanism of proton transport.

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