Raman studies of the internal modes in ferroelectric crystal $(CH_3NH_3)_5Bi_2Cl_{11}$ (MAPCB).

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Streszczenie

The Raman spectra of $(CH_3NH_3)_5Bi_2Cl_{11}$ in the range of internal frequency modes of the $(CH_3NH_3)^+$ cation (75-1700, 2700-3500 cm^{-1}) have been recorded in the three phases and at room temperature for the partially deuterated (CD_3NH_3) compound. The CH_3 (or CD_3) and NH_3^+ bands of the spectra have been identified and compared with Raman results available for other methylammonium crystals. The temperature dependences of these internal modes were measured in the range 100-360 K and their temperature behaviour has been explained by a model of linear and quadratic pseudospin-phonon interactions.

Adres publiczny

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