



The para-ferroelectric phase transitions in $(\text{NH}_3(\text{CH}_3)_5\text{Bi}_2\text{Cl}_{11})$. (P.M.A.C.B.).

Autorzy

J. Lefebvre

P. Carpentier

Ryszard Jakubas

Lucjan Sobczyk

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Streszczenie

A new ferroelectric crystal, $(\text{CH}_3\text{NH}_3)_5\text{Bi}_2\text{Cl}_{11}$ has been grown. It reveals a second-order phase transition at 307 K with a high peak in the dielectric permittivity along c: $\epsilon_c \approx 8.5 \times 10^3$. The structures of the ferro and paraelectric phases are orthorhombic. In the paraelectric phase, three of the five methylammoniums are disordered, while in the ferroelectric phase two of them are still disordered. The packing is ensured by N—H...Cl hydrogen bonds between anions and cations. The ordering of the methylammonium cation in the ferroelectric phase leads to a new hydrogen bond formation responsible for the high dipolar properties of this compound.

Adres publiczny

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