

Dilatometric, dielectric and NMR studies of structural phase transitions of the $(\text{CH}_3\text{NH}_3)_3\text{Bi}_2\text{Cl}_9$ (MACB) crystals.

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The phase transitions and molecular motions of the methylammonium cations were investigated in the $(\text{CH}_3\text{NH}_3)_3\text{Bi}_2\text{Cl}_9$ (MACB) crystal by dilatometric and dielectric measurements, and by the measurements of the ^1H spin-lattice relaxation times and second moment of the ^1H NMR absorptions over a wide temperature range. Structural phase transitions, weakly first order at 247 K ($\text{III} \leftrightarrow \text{II}$) and continuous at 352 K ($\text{II} \leftrightarrow \text{I}$), were detected by the dilatometric technique. The ^1H NMR measurements revealed the presence of the uniaxial reorientations of the three non-equivalent methylammonium cations in the lowest temperature phase (III).

Słowa kluczowe

NMR spectroscopy, Dilatometric measurements, Dielectric measurements, Phase transitions, MACB crystal

Adres publiczny

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