

The pressure influence on the incommensurate-commensurate ferroelectric phase transition in [4-NH₂C₅H₄NH][SbCl₄].

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Streszczenie

The dielectric properties of the [4-NH₂C₅H₄NH] SbCl₄ (abbreviated as 4-APCA) crystal were investigated under hydrostatic pressure up to 300 Mpa. The pressure–temperature phase diagram was given. The paraelectric–ferroelectric phase transition (II → III) temperature (T_c) increases linearly with increasing pressure with a slope $dT_c/dp=21\times 10^{-2}$ K/MPa. The pressure dependence of Curie–Weiss constants has been evaluated also. In the paraelectric phase (II) the Curie constant (C_+) was pressure dependent whereas the C_- constant over the ferroelectric phase (III) was almost constant. The results are interpreted in terms of improper and displacive type phase transition model with a soft phonon at a zone boundary.

Słowa kluczowe

Ferroelectric, Dielectric permittivity, Phase transitions, High pressure

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