Dielectric properties and characterisation of the superionic phase of $[C(NH_2)_3]_2SbCl_5 \cdot [C(CH_2)_3]Cl$ (GHCA).

Autorzy

J. Zaleski

Grażyna Bator

Ryszard Jakubas

Rok wydania

1995

Czasopismo

Zeitschrift für Naturforschung Section A: A Journal of Physical Sciences

Numer woluminu

50a

Strony

888-892

DOI

10.1515/zna-1995-0916

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

GHCA undergoes four phase transitions at T_{c1} = 402 K, T_{c2} = 373 K, T_{c3} = 162 K, and T_{c4} = 146 K. Below T_{c3} it possesses pyroelectric properties with the spontaneous polarization vector (Ps) in the ac plane and the maximum along the c axis equal to 8 μC/m2. Dielectric dispersion studies of GHCA show that the main dielectric dispersion connected probably with collective motions of chlorine ions is above 1GHz. For the phase transition at T_{c2} to a superionic phase the thermal dilatation and electric conductivity were measured. The anomalies of the electric conductivity at T_{c2} and T_{c1} were observed with large values of $\sigma(10^{-3}$ S/m) above T_{c3}. The guanidinium cations above T_{c2}, besides reorientational motions, undergo slow self diffusion.

Słowa kluczowe

Guanidinium, chloroantimonate, phase transition, DSC, dilatometric, pyroelectric, electric conductivity

Adres publiczny

https://doi.org/10.1515/zna-1995-0916