Investigations on the Existence of a High-Temperature Phase Transition in Ammonium Sulphate Crystals

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Abstract:

The existence of a high-temperature phase transition in ammonium sulphate (AS) crystals is discussed. The DC electrical conductivity and the dielectric permittivity in the temperature range 300-460 K are measured and the results are examined trying to detect the proposed phase transition. The results indicate no evidence for a ferroelectric phase transition, but the anomaly observed at 423 K simply is the result of variations in the conduction mechanism which could be attributed to an order-disorder type of phase transition.

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