

# EPR study of quasi-two dimensional ferromagnetism in CrTe crystals.

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The crystal structure of CrTe suggests two-dimensional magnetism in the plane perpendicular to c axis. It is consistent with the temperature dependence of the g factor and the EPR lines width observed. In present paper we investigate the CrTe alloy which has been prepared by melting of the powdered  $\text{Cr}_2\text{Te}_3$  in evacuated quartz ampoule at the temperature 1600 K. The ESR spectra were recorded using X-band (9.4 GHz) spectrometer provided with gas nitrogen cryostat. The shape of the EPR line depends strongly on the temperature. In the vicinity of the room temperature the lines become very wide and weak or disappear completely. At lower temperatures the shape of the lines approaches the Lorentz function. The asymmetry of the lines is attributed to the strong exchange interactions as well as to the semimetal electrical conductivity. Above the room temperature the shape of the spectra is characteristic for the paramagnetic phase. The results were addressed based on model of critical spin fluctuations in two-dimensional Heisenberg magnet proposed by Eremin et al.[1].

## **References:**

[1] Eremin, I. et al., Phys. Rev. B 64, 064425 (2001)