

Specific heat and magnetocaloric effect in Cu_2MnBO_5 ludwigite

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Presents the results of the study specific heat and magnetocaloric effect in a single crystal Cu_2MnBO_5 ludwigite in the temperature range 60-350 K and in magnetic fields up to 18 kOe. On the temperature dependence of the specific heat at $T=91$ K is observed lambda anomaly, which is suppressed in the magnetic field. The magnetocaloric effect was investigated by the direct method, and was estimated from the data of the temperature dependence the specific heat. The maximum value of the MCE according to direct measurements in a magnetic field of 18 kOe is equal $\Delta T = 0.45$ K. Investigated the anisotropy of the MCE. Maximum of the MCE depending on the field direction is decreased by 1.5 times, by $\Delta T = 0.45$ K in a parallel orientation to $\Delta T = 0.3$ K at a perpendicular magnetic field orientation. The change of the magnetic entropy due to the magnetocaloric effect in a magnetic field of 6.2 kOe is equal $\Delta S = 1.07$ J / kg K. Influence of the frequency (10 Hz) of the magnetic field on the MCE are investigated also.