

543rd ASRC Seminar

Date: 13:00 ~13:45, 18 March

Location: Meeting room #5, Lab. Bldg.-1

Speaker: Prof. Ilya Sheikin

(Laboratoire National des Champs
Magnétiques Intenses)

Title: Specific heat and de Haas-van Alphen
effect study of CePt_2In_7 high quality
single crystals

Antiferromagnetic heavy fermion CePt_2In_7 has recently come to prominence due the observation of a pressure-induced quantum critical point and associated with it superconductivity. However, most of the so far reported results were obtained on either polycrystals or single crystals contaminated with other phases. We present here the results of specific heat and dHvA investigation of high quality phase pure single crystals of CePt_2In_7 . Contrary to the earlier reports, the antiferromagnetic transition at about 5 K is found to shift to lower temperatures with magnetic field applied along the crystallographic c-axis. The dHvA effect measurements up to 35 Tesla reveal several frequencies ranging from 4 to 10 kT with strongly pronounced 2D angular dependence. This is again at odds with the previous report where such frequencies were observed only above a transition at 45 T. The corresponding effective masses are moderately enhanced, 2-6 bare electron masses.

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