

(PS25)

Elastic properties of $\text{PrOs}_4\text{Sb}_{12}$

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We have measured the elastic constant and ultrasonic attenuation of the filled skutterudite $\text{PrOs}_4\text{Sb}_{12}$ by means of ultrasonic measurement in the magnetic field up to 12T. A remarkable softening appeared at below about 20K in all the modes. The peak, probably caused by superconducting transition was observed at the ultrasonic attenuation of C_{44} around 4K. However, the position of a peak and the position of a transition point do not necessarily correspond correctly to those determined by other results such as specific heat and magnetization measurement. Fitting was performed about the results of the elastic constant $(C_{11} - C_{12})/2$ and C_{44} in 3T using the CEF model in which the ground state was set as Γ_1 singlet. We will discuss the determined phase diagram and the origin of obtained ultrasonic attenuation.

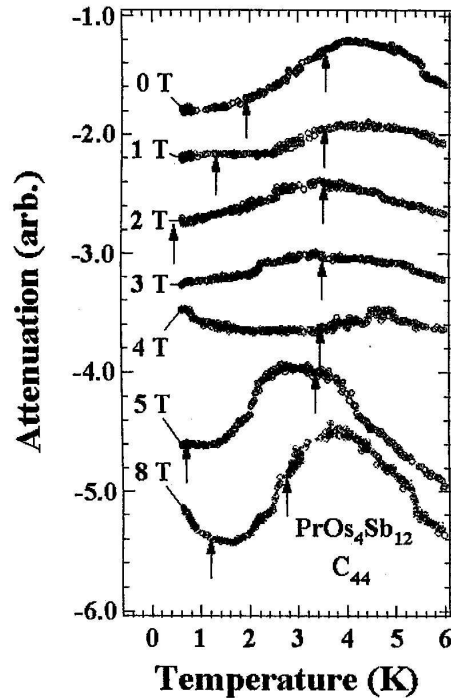


Figure1: Temperature dependence of ultrasonic attenuation of C_{44} of $\text{PrOs}_4\text{Sb}_{12}$