DYNAMIC CRYSTAL FIELD IN $CePb_3$

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The crystal field of valence fluctuating systems is time dependent due to f-electron transfers to the conduction band. We discuss the neutron scattering spectra of $CePb_3$ using the quasistatic picture, where the effect of time dependent valence fluctuations is approximated by a distribution function of valence fluctuation centres around a given centre. The large widths of inelastic lines at low temperatures are mainly determined by the spread of crystal field energies corresponding to the different local and temporary crystal fields. The corresponding crystal field contribution to the specific heat is also presented. The CF parameters are obtained by the real space integration of LMTO charge densities. In the final step of the self–consistent cycle, the charge distribution is computed without the spherical shape restriction.

9.7 cm

13.4 cm

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