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Raman and Infrared Study of Phonons in a Pyrochlore Superconductor

Tuesday 14 June 2016 20:00 (2 minutes)

$Cd_2Re_2O_7$ is a pyrochlore superconductor with a transition temperature (T_C) near 2 K. The results of Raman scattering and far-infrared reflectance measurements will be presented. The temperature dependence of optical phonons has been investigated above and below T_C via IR spectroscopy, and as a function of Oxygen and Cadmium isotope substitution in the normal state via Raman scattering. The dominant presence of lattice vibrational modes in the optical spectra suggests that electron-phonon interaction plays an important role in the normal and superconducting state properties.

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Track Classification: Condensed Matter and Materials Physics / Physique de la matière condensée et matériaux (DCMMP-DPMCM)