HOT METHANE SPECTRA IN THE 3 MICRON REGION

R. NASSAR, F. CHARRON and P.F. BERNATH, *Department of Chemistry, University of Waterloo, Waterloo, Ontario, CANADA N2L 3G1*.

Absorption from hot methane is prominent in the near infrared spectra of brown dwarfs. Brown dwarfs are sub-stellar objects that are too cool to generate energy from the fusion of hydrogen. As the surface temperature drops below about 1300 K, CO is converted to methane. We report here on the high resolution emission spectrum of methane recorded at 1300 K in the 3 micron region. A direct comparison will be made between the laboratory spectrum and that of a T-type brown dwarf.