COLLISION INDUCED ABSORPTION SPECTRA OF N_2 AND CH_4

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Collision-induced absorption (CIA) spectra of nitrogen and methane are needed to model radiative transfer in atmospheres of objects such as Saturn's moon, Titan. We present Fourier transform infrared spectra of nitrogen and methane rototranslation CIA in the range of 40-600 cm^{-1}. The peak CIA of methane was found to be $7.20 * 10^{-6}$ cm^{-1}/amagat^2 at 124.5 K while nitrogen had a peak value of $7.15 * 10^{-6}$ cm^{-1}/amagat^2 at an average temperature of 102.5 K. Work is also underway on the CH_4-N_2 CIA system.