INVESTIGATION OF THE COLLISION-INDUCED-ABSORPTION CONTRIBUTION TO THE 1.27μm $a^1\Delta_g$ - $X^3\Sigma_g^-$ BAND OF O_2

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The collision-induced absorption structure accompanying the magnetic-dipole-allowed 1.27 μm $a^1\Delta_g$ - $X^3\Sigma_g^-$ band of O_2, originally observed in the laboratory by Badger, Wright, and Whitlock, has been measured at 0.03 cm^{-1} resolution using a Fourier-transform infrared spectrometer. Spectra were recorded at an optical pathlength of 84 m for pure O_2, at temperatures between 253 K to 293 K and pressures to 9 atm. Several spectra were also measured for room-temperature O_2/N_2 mixtures. These results presently being analyzed will allow comparison with recent measurements of these bands in the atmosphere by Mlawer, Clough, Brown, Stephen, Landry, Goldman, and Murcray.