PRESSURE BROADENING OF THE O_2 B BAND MEASURED BY CAVITY RING-DOWN SPECTROSCOPY

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We have used cavity ring-down spectroscopy to measure pressure-broadening coefficients for several rotational lines in the atmospheric B band of O_2 at 688 nm. Collisional partners of the O_2 include O_2, N_2, and Ar. Total pressures range up to 2 atm; at that pressure, the self-broadened linewidth is 0.3 cm^{-1}, about twice the laser bandwidth. Comparisons with previous measurements by other techniques will be discussed.