LINESHAPE PARAMETERS OF THE OXYGEN A-BAND USING FREQUENCY-STABILIZED CAVITY RING-DOWN SPECTROSCOPY

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Laboratory spectra of the oxygen A-band ($b^1\Sigma_g^+ \leftarrow X^3\Sigma_g^-$) have been recorded using frequency-stabilized cavity ring-down spectroscopy (FS-CRDS) in the 12,900-13,080 cm^{-1} spectral region ($20<N''<40$). High-resolution and high-sensitivity measurements of line shape parameters (intensities, pressure broadening and shifting) are reported. Implication of line-mixing and collision-induced absorption to far-wing absorption will be discussed.