SELF- AND H_2-BROADENING AND SHIFT COEFFICIENTS IN THE $2 \leftarrow 0$ BAND OF $^{12}C^{16}O$: REVISITED

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Room temperature values for self-broadened and hydrogen-broadened Lorentz half width coefficients, and self and hydrogen pressure-induced shift coefficients have been measured for transitions with rotational quantum number index m ranging from -24 to $+24$ in the $2 \leftarrow 0$ band of $^{12}C^{16}O$. The spectra were recorded with the McMath-Pierce Fourier transform spectrometer located at the National Solar Observatory on Kitt Peak. The analysis was performed using a multispectrum nonlinear least squares technique[a] modified to constrain the Lorentz widths in the P and R branches to be identical for the same $|m|$ value. We have compared the present results with our previous measurements made with the same spectrometer[b] and with other measurements published recently.

[a]D. Chris Benner, C. P. Rinsland, V. Malathy Devi, M. A. H. Smith and D. Atkins, *JQSRT* **53**, 705-721 (1995).
[b]V. Malathy Devi, D. Chris Benner, M. A. H. Smith, C. P. Rinsland and A. W. Mantz, *JQSRT* **75**, 455-471 (2002).