

The version of HITEMP (**High-Temperature Molecular Spectroscopic Database**) available here is the edition of 2010. Details of the contents can be found in the article: L.S. Rothman, I.E. Gordon, R.J. Barber, H. Dothe, R.R. Gamache, A. Goldman, V.I. Perevalov, S.A. Tashkun, and J. Tennyson, “HITEMP, the High-Temperature Molecular Spectroscopic Database,” *Journal of Quantitative Spectroscopy and Radiative Transfer* **111**, 2139-2150 (2010). Please cite this article when using the database. Just as in HITRAN, there are reference indices to the sources of the major parameters; these should be used as well for citation.

There are 5 folders currently in HITEMP2010, representing the molecules H<sub>2</sub>O, CO<sub>2</sub>, CO, NO, and OH. In cases such as water vapor and carbon dioxide where there are vast amounts of data, we have broken the line lists into wavenumber intervals. The filenames in these cases are in the form: Mol\_v1-v2\_HITEMP2010.zip For example, 01\_00050-00150\_HITEMP2010.zip would contain water-vapor lines (01 is the HITRAN designation for H<sub>2</sub>O) in the interval  $50 < \nu \leq 150 \text{ cm}^{-1}$ . The files have been put in compressed form (.zip files), and when uncompressed, result in .par files (the ASCII format of HITRAN). See Fig. 1 for diagram of file structure.

Updates and corrections to HITEMP will be posted in the UPDATE sub-page of the HITRAN web site. The intensities in HITEMP have been given at a standard temperature of 296K; one can employ the partition sums as recommended in the HITEMP article to cast the intensities to the required temperature.

Note that the ASCII format for each line transition is the same as for HITRAN. However, to accommodate the very low exponents on some of the intensities, we have allowed for 3 digits after the exponent in the intensity field for CO, NO, and OH, namely using a Fortran descriptor E10.3E3 rather than E10.3.

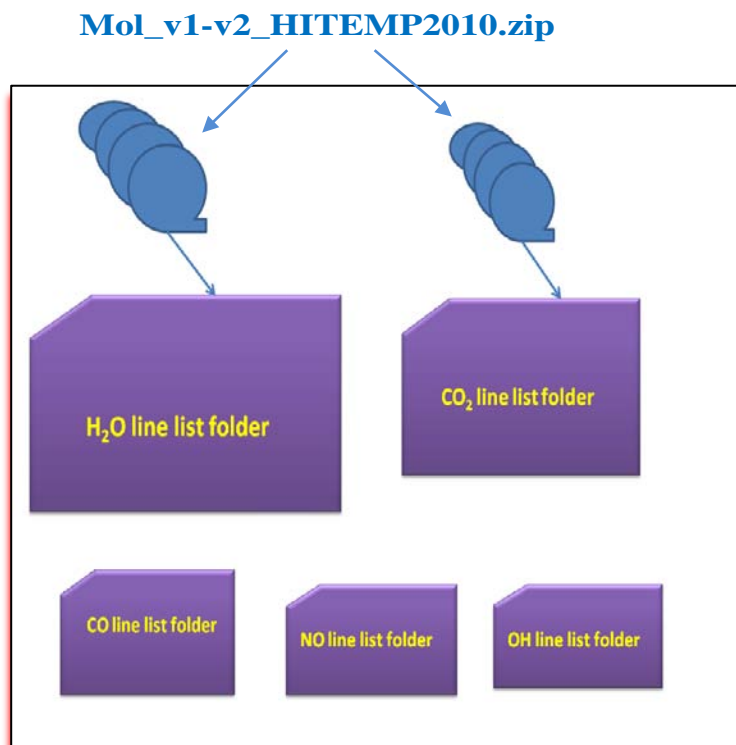


Fig. 1. Schematic of the file structure of the HITEMP database.

Note that while the HITEMP article was in press we made a few minor improvements to the database in comparison with what is explained in the HITEMP article (see Table 1 below).

These changes mostly reflect that we allowed more transitions in the database than was originally planned. The actual number of lines for every molecule in the HITEMP database is given below and this information supersedes the one given in Table 4 of the HITEMP article.

Molecule	Spectral coverage (cm <sup>-1</sup> )	Number of isotopologues <sup>a</sup>	Number of transitions
H <sub>2</sub> O	0 – 30 000	6	114,241,164
CO <sub>2</sub>	5 – 12 785	7	11,193,608
CO	0 – 8 465	6	113,631
NO	0 – 9 274	3	115,610
OH	0 – 19 268	3	41,557

Table 1. Content of *HITEMP2010*

<sup>a</sup>For H<sub>2</sub>O, NO, and OH, only the principal isotopologue has been created for high temperature at this time. The other lesser abundant isotopologues have been transcribed from *HITRAN2008* (296K).