

Total Internal Partition Sums (TIPS)

This folder, **Fortran programs for Partition Sums**, contains a Fortran program and its associated routines that enable a user to compute the partition sum of the HITRAN isotopologues at temperatures from 70 to 3000K. The definition of partition sums in HITRAN is very general and includes state-independent statistical weights. Thus the values themselves may appear rather large; however, the partition sums usually appear as ratios, so extra factors in the definitions cancel out.

Note that at this time there are several isotopologues for which we have not yet calculated the partition sums. On the other hand, there are a couple of rarer isotopologues with partition sums provided that do not appear in HITRAN. We are in the process of adding the missing partition sums, and also improving the efficiency and utility of the delivery of partition sums for users.