

- shifts in spectral line cores.
- the characteristics of cometary comae at production, transport, and chemistry as a function of distance from the Sun.

As a particular example of current atmospheric science, we present observations of the HDO (3-2) line in the atmosphere of Mars from the Owens Valley Radio Observatory (OVRO) in 1997. The integrated HDO emission map shows that emission peaks are significantly more water vapor emission in the northern hemisphere (due to sublimation of water deposits in the north during northern summer solstice). At the same time, the southern hemisphere shows a significant deficit of water vapor.

Planetary Atmospheres

