



Atmospheric water vapor estimation, a comparison between GPS occultation and terrestrial data

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Abstract:

Water vapor plays a crucial role in a variety of atmospheric processes that act over a wide range of spatial and temporal scales. It is widely appreciated that improved monitoring of atmospheric water vapor will lead to more accurate forecasts of precipitation and a better understanding of climate change.

A modern approach to estimate vertically integrated atmospheric water vapor is GPS occultation. The data have global coverage, high vertical resolution and are easy to access.

In this article, we estimate water vapor pressure for Tehran (IRAN) in year 2005 from GPS occultation data and compare the results with those of the terrestrial methods.

For this purpose we use one of IGS station in Tehran. ZWDs observed, then are converted to water vapor pressure. The results are compared with GPS occultation data obtained from JPL.

Key words: water vapor, GPS occultation, atmosphere