



Sensitivity analysis of GPS derived precipitable water vapour

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Abstract: Accuracy of estimation of Precipitable Water Vapour (PWV) from Global Positioning System (GPS) observables depends on many factors such as coordinates of observation station, satellite orbits, elevation cut-off angle, mapping function etc. In this study, an analysis has been carried out to find whether estimation of PWV from GPS observables is sensitive to these parameters. The study has been conducted on Indian condition. It can be concluded that PWV estimation is most sensitive to the height coordinate of the observation station. Further, it is also sensitive to elevation cut-off angle as well as on the type of mapping function used in analysis.

Keywords: GPS, PWV, Sensitivity, Tropospheric delay, Wet delay, Mapping functions.