



Comparative study of zenith hydrostatic models for PWV estimation over Bangalore

Jayanta Kumar Ghosh¹, Dinesh Singh¹ and Abhisekh Dubey²

¹Department of Civil Engineering, Indian Institute of Technology, Roorkee, Uttarakhand – 247 667

²RMG, Covansys, MEPZ, Chennai – 600 045

Email: gjkumfce@iitr.ernet.in

(Received: 21 October, 2010; in final form August 31, 2011)

Abstract: GPS gives promise of all weather operation, economy and high temporal resolution with accuracy. Focus of present work is on application of ground based dual frequency receivers with network based post-processing mode in estimating precipitable water vapor. Precipitable water vapor has been estimated for Bangalore, from raw observations and precise orbits obtained through IGS archive. PWV estimation has been performed for 31 days of December, 2006. Precise station coordinates have been obtained from IGS. Additional IGS stations are included in the network processing. Comparison of results with radiosonde derived PWV shows an RMS difference of 7.26 mm between the two. Additionally, assessment of various zenith hydrostatic delay models and mean temperature models has been performed.

Keywords: PWV, Zenith Hydrostatic Delay, ZHD, GPS