

# **Zenith troposphere delay remote sensing the variety of precipitable water vapor in Chinese mainland**

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The article has been remote sensed the variety of precipitable water vapor in Chinese mainland with GPS tropospheric zenith delay. For the comparison of GPS precipitable water vapor and radiosonde data the correlation coefficient was 0.94 and the bias was 0.24mm. It can be explained that the variety of tropospheric zenith delay could reflect the change of precipitable water vapor which the correlation coefficient of GPS tropospheric zenith delay and radiosonde was 0.89. With the data of the Crust Monitor Observation Network of China (CMONOC) from 2002 to 2004 we have calculated the ZTD of all stations and plotted the figures of season change of ZTD in Chinese mainland. We reached the conclusion that the total trend of the PWV is diminishing from the south-east coastland to the north-west inland, which is in accordance with the distribution of Chinese annual amount of rainfall. The temporal and spatial distribution of the PWV is asymmetry, which is more in coastland and less in inland, more in lower latitude and less in higher latitude. In China, the PWV reaches the apex during the July and August, and it reaches the trough during the January and February.