



The near real-time GPS precipitable water vapor retrieval system in KASI: progress and plan

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The Korea Astronomy and Space Science Institute (KASI) has operated the nine continuous GPS stations since 2001. We developed the near real-time GPS precipitable water vapor (PWV) retrieval system since 2007. For the application to the numerical weather prediction (NWP), it is necessary to obtain GPS PWV data with one hour latency and two-millimeter accuracy. The sliding window technique and the use of IGS ultra-rapid ephemeris were used as the constraints. To verify the processing strategy, the GPS measurements during the first 10 days of January, April, July and October were processed, which were compared with co-located radiosonde at Sokcho. It has shown 0.8 mm of mean bias and 1.7 mm of standard deviation in three minutes forty-three seconds. Next, the re-configuration of GPS network to obtain GPS and meteorological data in near-real time is being performed, and it would be finished by March in 2008. In the early of this year, this system will provide near real-time GPS PWV result via the online.