

## IDS Workshop

# TROPOSPHERIC ESTIMATION USING DORIS DATA CURRENT STATUS AND PERSPECTIVES

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### **Abstract**

While all IDS Analysis Centers are estimating tropospheric parameters when generating their geodetic products (orbit, station coordinates, geocenter, Earth orientation), very few studies have considered the use and value of these tropospheric estimates as such.

In a first step, we will present the current estimation strategy used at IGN with the GIPSY/OASIS software, where this parameter is site-specific and correlated across several satellite pass. Using long-term comparisons with GPS-based zenith delays, we will discuss the current accuracy of our DORIS results, showing that they are already capable of detecting changes in GPS data processing (November 5, 2006).

In a second step, we will show that additional parameters, such as horizontal tropospheric gradients, can also be estimated from the DORIS. A systematic comparison in 2007 with similar GPS results at co-located sites demonstrated a good correlation, as well as possible slight improvement in the derived time series of DORIS station coordinates. These results are also confirmed with multi-technique comparisons (VLBI, GPS, WVR) during the CONT08 campaign.

Finally, we will discuss how DORIS tropospheric results could be improved in the future and, beside their use in the improvement of the current IDS geodetic products, we will discuss possible future use and limitation for calibration purposes or long-term climate studies.