

Introducing GLONASS in the EUREF Permanent Network: First Results

Bruyninx, C.

Royal Observatory of Belgium, BELGIUM

The EUREF Permanent Network (EPN), consists of more than 180 permanent GPS stations from which about 25 are also tracking GLONASS satellites. The primary purpose of the EPN is to maintain the European Terrestrial Reference System (ETRS89) and EUREF does this by generating weekly coordinate estimates for all EPN stations. Up to now, all coordinate estimates have been based on only GPS data and no GLONASS data is used.

With the growing number of available GPS+GLONASS equipment, the recent revitalization of GLONASS and the fact that the IGS GLONASS orbits are now available with a similar latency as the IGS GPS orbits, it has become worthwhile to investigate the advantages and disadvantages of adding GLONASS data to the routine data analysis of the EPN network. In addition, at the last EPN Analysis Centers Workshop in March 2006, it was decided that the EPN Analysis Centers could from now on deliver GPS+GLONASS solutions for the maintenance of the ETRS89. Since the EPN is a regional network, it needs a priori orbit and clock information. We will compare the coordinates obtained using a GPS-only analysis with the ones obtained using a GPS+GLONASS analysis. In the case of the GPS+GLONASS-based coordinates, the results obtained using the IGS orbits will be compared with the results obtained using CODE orbits.