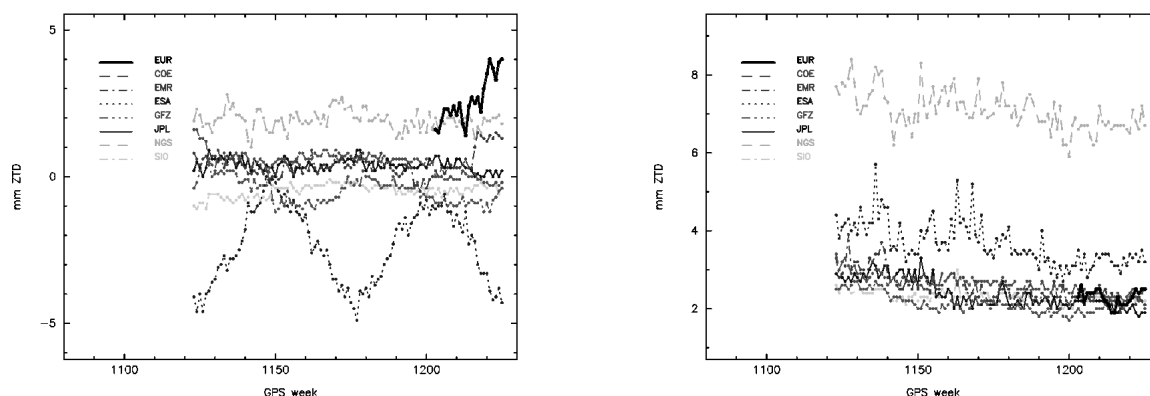


## EUREF Special Project “Troposphere parameter estimation”

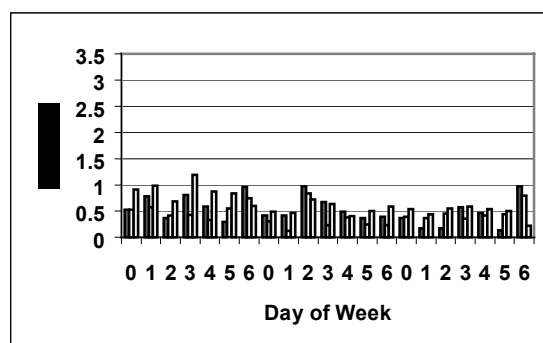
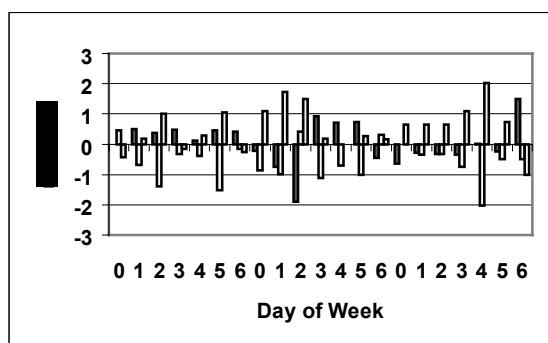
### Status Report, November 2003

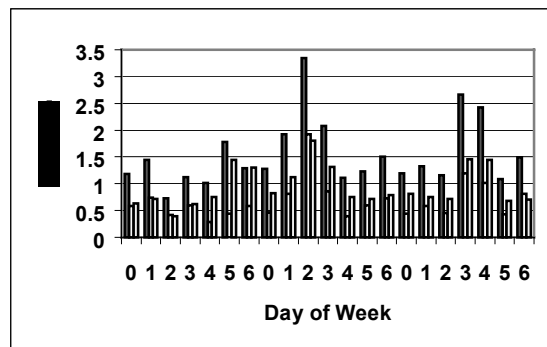
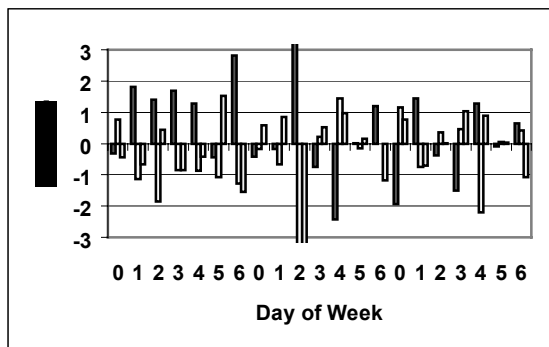
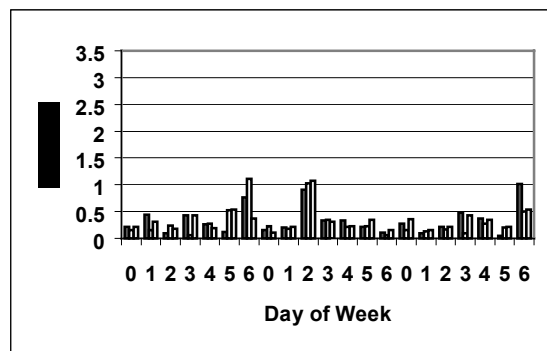
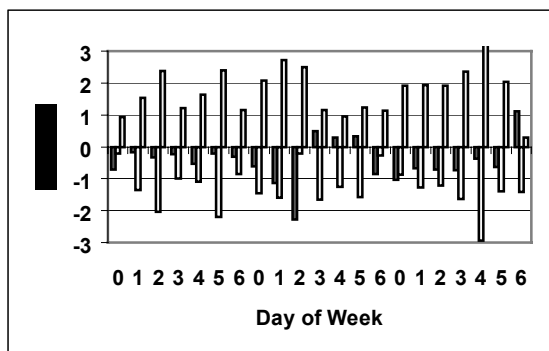
Since the last report in June 2003 no change in the number of participating Local Analysis Centers (LACs) or changes in the parameter settings took place. There are still 16 LACs involved with one LAC – ASI – still solving for the troposphere parameters in a two hours interval.

The monitoring of the weekly solutions of the zenith total delay (ZTD) values of the LACs went on, the contribution of the EPN “rapid” solution to the IGS ZTD combination as well with good and stable results:

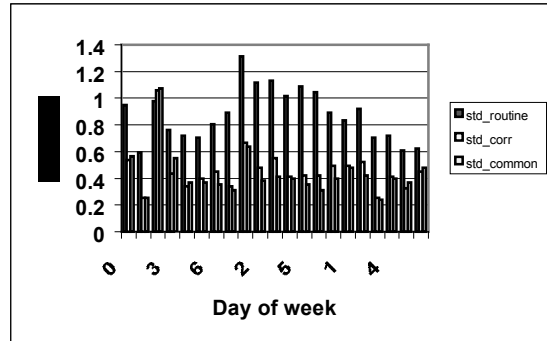
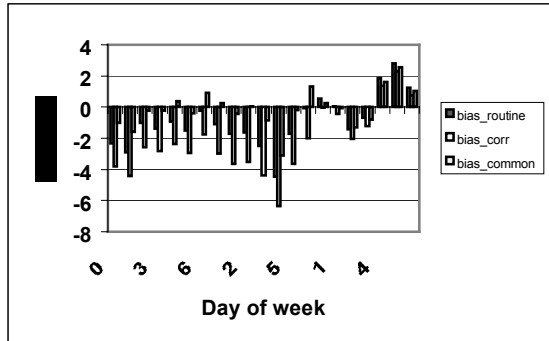


Some more investigations about the test computation (see last status report) were made and presented at the LAC workshop in GRAZ. Within this test computation five LACs had re-computed their daily troposphere solutions using the final weekly combined solution instead of their own weekly coordinate solution. Checking carefully the used coordinates at least the solutions of the three LACs BKG, NKG and ROB could be used for some comparisons. The other two solutions had shown discrepancies concerning the troposphere resolution interval (ASI) and the fixing of the coordinates (WUT). Four sites (BRUS, HERS, KLOP and POTS) were estimated by all three LACs, therefore the analyses were concentrated on these sites. For comparison a third type of ZTD values was used derived from height corrected values, i.e. the ZTD values were reduced for the height difference between the individual and the mean coordinate solution by a simple 3:1 relation. As mentioned in the last report the expected improvement of the combination results could not be confirmed in general. The three figures on the left show the daily mean biases for the three LACs BKG, NKG and ROB for three consecutive weeks, on the right there is the standard deviation. The upper figures are taken from routine-like processing, the figures in the middle are coming from the height corrected values and the lower figures are derived from the test processing.





The standard deviations of the biases of the height corrected values are the smallest, i.e. these biases are most consistent. The values of the test processing are worse, i.e. the use of a common set of coordinates does not improve the total zenith delay parameters in the way of reducing the biases.



If the LACs are compared in pairs, e.g. NKG and ROB, the biases of the computation with a common set of coordinates are smallest and also the standard deviation is small compared to the standard deviation of the routine processing.