3) DATA ANALYSIS

The general procedure adopted for the ITRF computation is largely described in the IERS Technical Notes 4, 6 and 9 as well as in (Altamimi and Boucher, 1991).

The realization of this IERS GPS Terrestrial Reference Frame consists of least square estimation of the cartesian coordinates of the selected stations. This has been done by combination of the ITRF90 set and the local tie values with their a priori variances. In this adjustment, the 7 transformation parameters of the ITRF90 have been held fixed to zero in order to express the resulting station coordinates in the IERS Terrestrial Reference System.

4) RESULTS

The coordinates of 40 GPS tracking points located in 17 sites (see Figure 1) have been adjusted and listed in Tables 4 and 5 for the two epochs 1991.0 and 1992.0 respectively. The quality of these coordinates depends obviously on both the ITRF90 coordinates and the local ties values.

The errors given for these coordinates are the combination of those of the ITRF90 as well as of the locale ties. Unfortunately, possible errors in local tie values could not be detected in this computation.

On the other hand, these errors do not take into account the propagation of uncertainties due to the use of AM0-2 model to estimate coordinates for the two selected epochs.

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