Foreword

The ITRF2000 solution is intended to be a standard solution for a wide application community (geodesy, geophysics, navigation, etc.). It is achieved by combining simultaneously station positions and velocities using full variance-covariance information provided, in SINEX format, by the IERS analysis centers. The individual solutions incorporated in the combination are free from any external constraints, yielding actual space geodesy estimates in terms of station positions and velocities. The ITRF2000 origin is established by a weighted average of 5 over 7 submitted SLR solutions. Its scale is obtained by a weighted average of 5 SLR and 3 VLBI solutions. The ITRF2000 orientation is aligned to ITRF97 at epoch 1997.0 and its orientation time evolution is aligned to the geophysical model NNR-NUVEL-1A. The orientation and its time evolution were implemented using a consistent geodetic way, anchored over 50 sites of high geodetic quality. The ITRF2000 contains about 800 stations located on about 500 sites. Figure 1 shows the coverage of these sites, underlying the collocated space geodesy techniques.

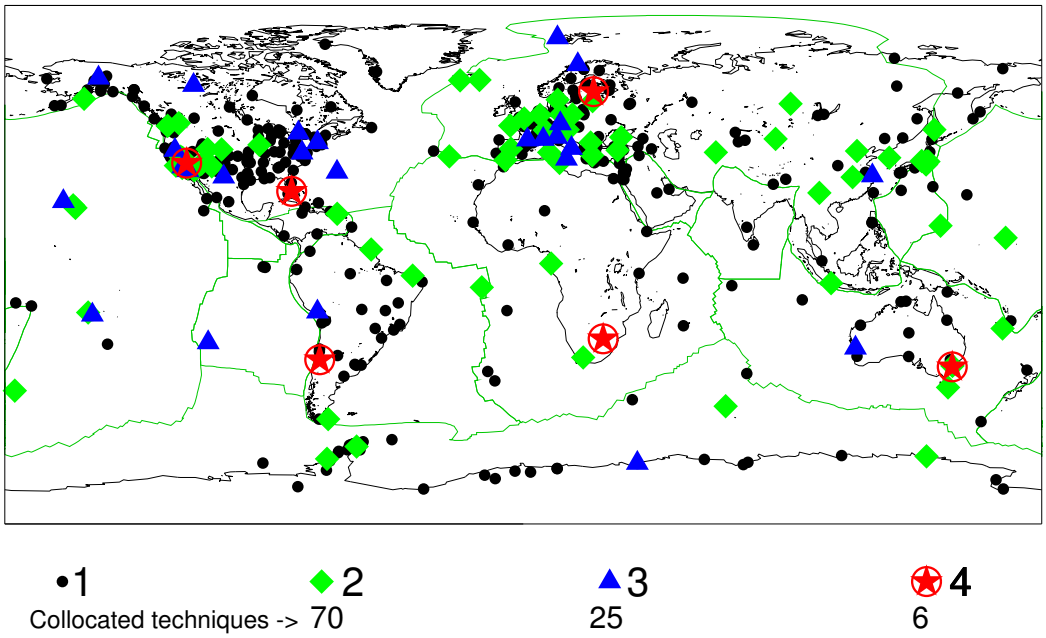

Fig. 1 ITRF2000 Primary Network and collocated techniques.

This Technical Note contains the main ITRF2000 products: station positions and velocities, transformation parameters between ITRF2000 and individual solutions used in the combination as well as the post fit residuals and statistics. The main technical procedure used to generate the ITRF2000, a thorough discussion of its quality as well as most important geodetic and geophysical results were published in Altamimi et al. (2002), appended to this Technical Note.

Prior to the ITRF2000 release, a dedicated Workshop was held on 2-3 November 2000 at the Ecole Nationale des Sciences Gographiques (ENSG), a part of the Institut Gographique National (IGN), in Champs-sur-Marne, France. The Workshop gathered members of the Working Group on ITRF Datum as well as representatives of most IERS Analysis Centers contributing to the ITRF2000. The full Workshop recommendations related to the ITRF2000 datum definition are appended to this Technical Note.

Note: The ITRF2000 is initially divided in two parts:

- Primary Combination of all (Global or Regional/Densification) solutions that contain both positions and velocities for all stations. This Technical Note is devoted to this primary combination.
- Densification solutions containing only station positions. This densification part will be computed and published on a later stage.