Italian Activities relevant to EUREF

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1. Geodetic activities at Istituto Geografico Militare Italiano (IGMI)

The geodetic activities at IGM in the years 1998 and 1999 concerned mainly the maintenance and the densification of the existing basic networks: IGM95 GPS network and the fundamental high precision leveling net (also taking into account to possibly use the data in the frame of EUREF and EUVN).

IGM95 network maintenance and densification

At present, after the densifications carried out in the period 1996-1997, the IGM95 network is composed by over 1500 points uniformly distributed all over the Italian territory. All the points are featured by an accuracy of 2-3 cm in the surface coordinates and about 4 cm in the height component and the relevant site monumentations are generally easily accessible.

The main activities concerning the IGM95 network today is (a) some minor densifications, (b) the revision and control of the relevant monumentations and, above all, (c) a systematic densification of the GEOTRAV points. The latter activity aims to increase the number of IGM95 points placed along the leveling lines – and altimetrically connected with the relevant benchmarks – in order to determine a reliable link between ellipsoidal and orthometric heights and to provide a valid check for local geoid models.

High precision leveling net maintenance and densification

The project of revision and densification of the fundamental leveling net has been started few years ago. Its main purpose is both to provide the national users with a more reliable and effective reference for their surveys and to make available a denser and controlled frame for scientific purposes (such as DTM's and/or geoid checks).

The total length of the densification lines, as already noted in the past report, is about 5500 km which are going to increase the 13000 km of the fundamental leveling network. It is foreseen to complete the project within 6-7 years.

2. Permanent GPS network.

Italy continues to support EUREF by means of permanent GPS stations, Local Data Center and Analysis Centers.

At this time the following 12 Italian Stations contribute to EUREF : TORI, GENO, BZRG, UPAD, VENE, MEDI, UNPG, CAME, MATE, NOT1, LAMP, CAGL. Of these, seven are managed by the Italian Space Agency ASI and four by other Organizations. There are two additional stations which have applied for contributing to EUREF: one is located in Trento, in NE Italy, the other in Reggio Calabria, in S Italy. MATE, MEDI and NOT1 are VLBI stations; MATE and CAGL have SLR equipment. CAGL, MATE, MEDI, UPAD and TORI send data files at hourly intervals.

The Space Geodesy Center in Matera (ASI) runs a Local Data Center and a Local Analysis Center. A second Local Analysis Center is operated by the University of Padova.

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