

Matera CGS VLBI Analysis Center

Roberto Lanotte, Giuseppe Bianco

Abstract

This paper reports the VLBI data analysis activities at the Space Geodesy Center (CGS) at Matera from January 2008 through December 2008 and the contributions that the CGS intends to provide for the future as an IVS Analysis Center.

1. General Information

The Matera VLBI station became operational at the Space Geodesy Center (CGS) of the Italian Space Agency (ASI) in May 1990. Since then it has been active in the framework of the most important international programs. VLBI data analysis activities are performed at CGS for a better understanding of the tectonic motions with specific regard for the European area. The CGS, operated by Telespazio on behalf of ASI, provides full scientific and operational support using the main space geodetic techniques: VLBI, SLR and GPS.

2. Staff at CGS contributing to the IVS Analysis Center

- Dr. Giuseppe Bianco, Responsible for CGS/ASI (primary scientific/technical contact).
- Dr. Cinzia Luceri, Responsible for scientific activities, e-GEOS.
- Dr. Roberto Lanotte, Geodynamics data analyst, Telespazio.

3. Current Status and Activities

3.1. Global VLBI Solution Asi2008a

The main VLBI data analysis activities at the CGS in the year 2008 were directed towards the realization of a global VLBI solution, named asi2008a, using the CALC/SOLVE software (developed at the GSFC). The main characteristics of this solution are:

- Data span:
1979.08.03 - 2008.11.07 (3510 sessions)
- Estimated Parameters:
 - Celestial Frame:
right ascension and declination as global parameters for 637 sources
 - Terrestrial Frame:
Coordinates and velocities for 92 stations as global parameters
 - Earth Orientation:
Unconstrained X pole, Y pole, UT1, Xp rate, Yp rate, UT1 rate, dpsi and deps.

3.2. IVS Tropospheric Products

Regular submission of tropospheric parameters (wet and total zenith path delays, and east and north horizontal gradients) for all VLBI stations observing in the IVS R1 and R4 sessions was continued during 2008. At present 601 sessions have been analysed and submitted covering the period from 2002 to 2008. The results are available at the IVS products ftp sites.

3.3. IVS Product “Time Series of Baseline Lengths”

Regular submission of station coordinate estimates, in SINEX files, was continued during 2008 for the IVS product “Time Series of Baseline Lengths”. This is composed of 3312 sessions, from 1979 to 2008.

4. Future Plans

- Continue and improve the realization of global VLBI analysis.
- Continue to participate in IVS analysis projects.