

GEODETTIC VLBI ACTIVITIES AT INSTITUTO GEOGRÁFICO NACIONAL (IGN), SPAIN

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The National Geographic Institute (IGN) of Spain has participated in geodetic VLBI observations since 1995, using the 14-m radio telescope at Yebes Observatory. Observations continue today with the 40-m telescope. The RAEGE project will provide a new VLBI2010-type 13-m antenna in Yebes as soon as 2012.

Yebes Observatory is also the reference station for the Spanish GNSS network, and holds permanent facilities for gravimetry. An SLR system in a new control building will also be built in the near future.



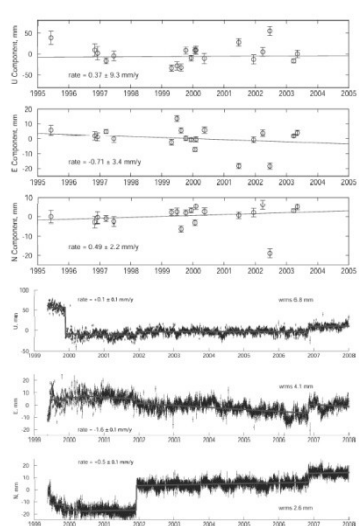
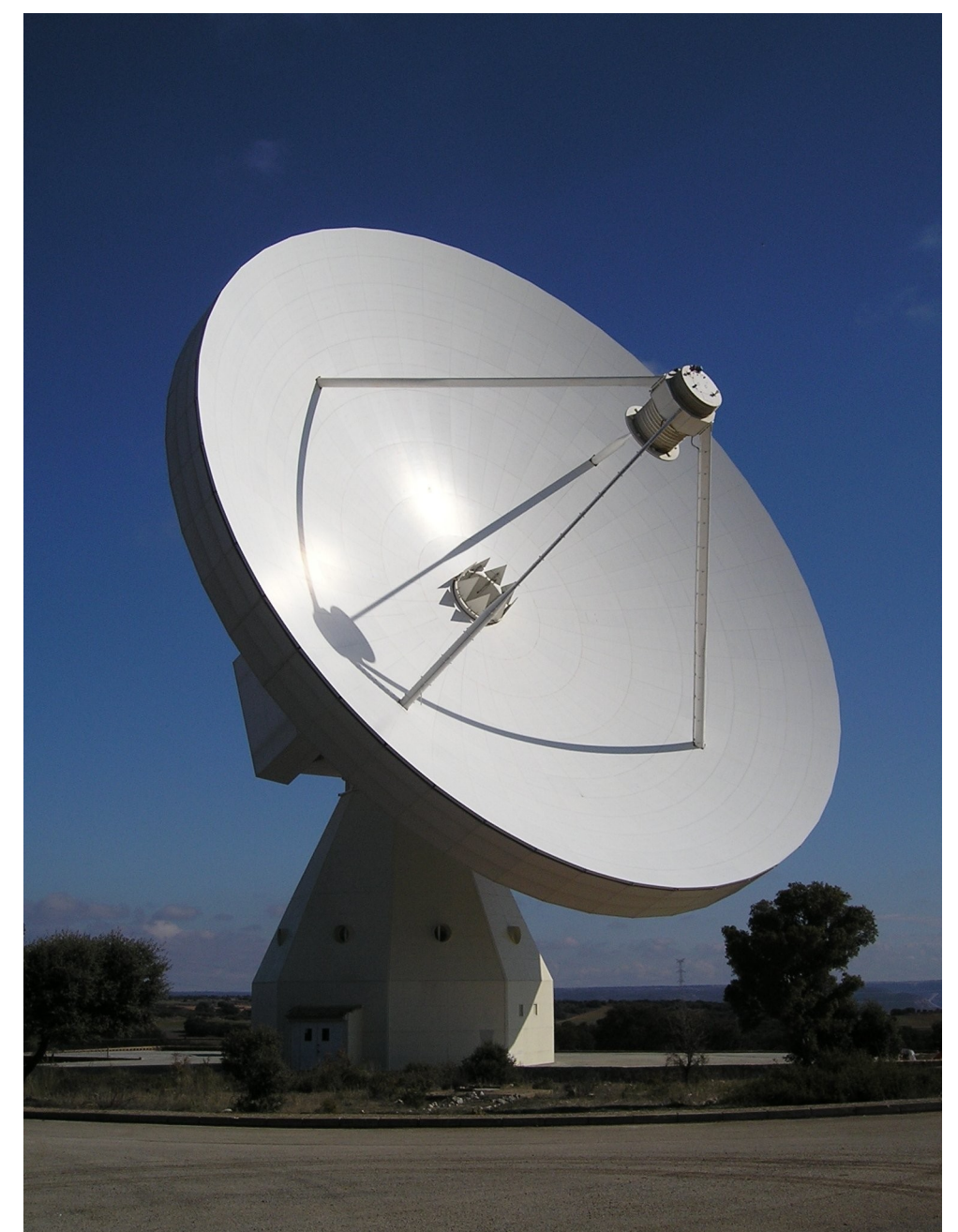
Gravimeter pavilion at Yebes Observatory, with the location of permanent absolute (FG5, A10) and superconducting (GWR/OSG) gravimeters.



The IGN 40-m radio telescope in Yebes has participated in CONT11, a campaign of continuous VLBI sessions scheduled in September 2011.

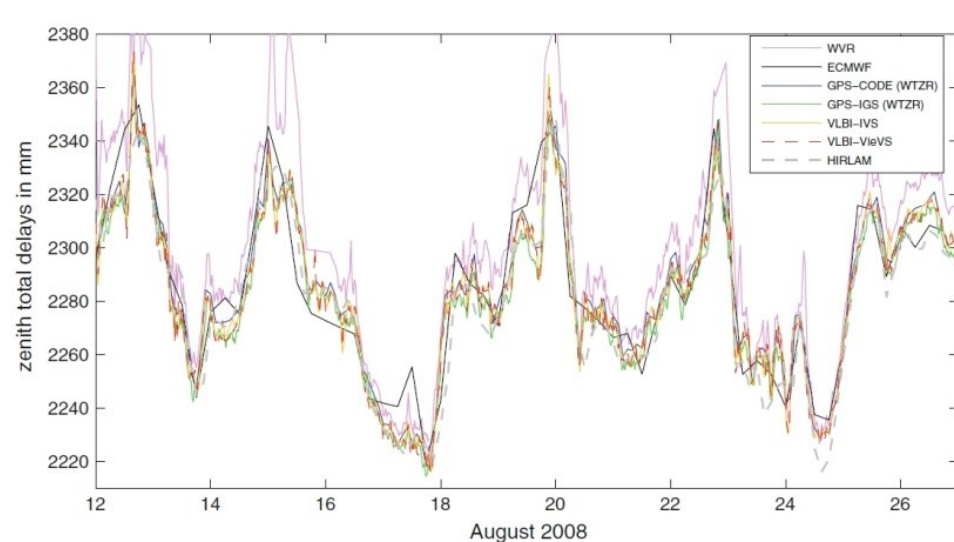
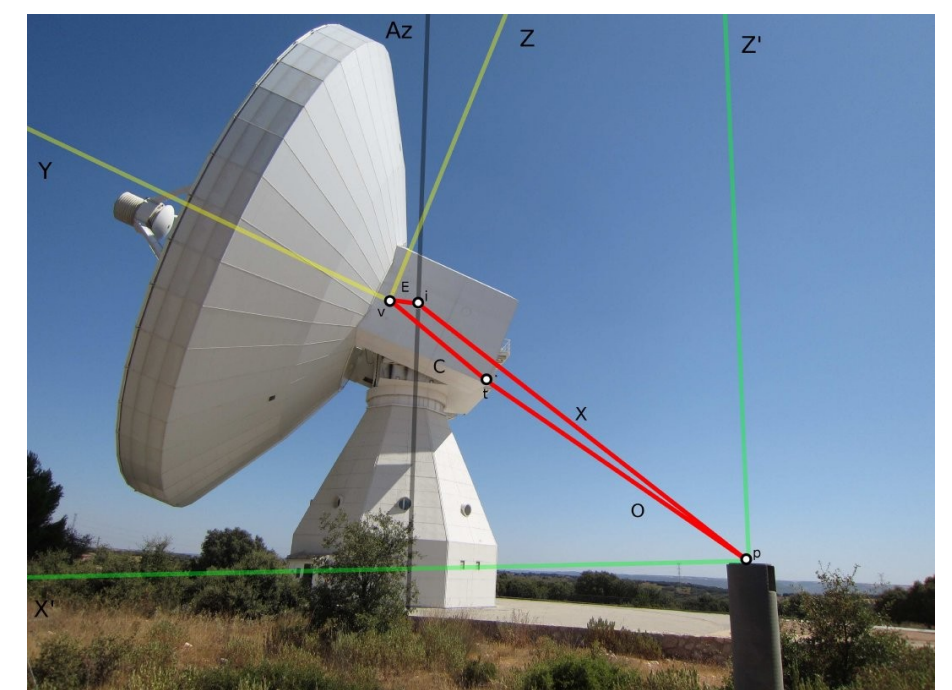
Geo VLBI observation campaigns at IGN-Yebes (Spain)

RT 14m	# 24h
1997	3
1998	1
1999	9
2000	5
2001	4
2002	5
2003	8
2004	1
RT 40m	
2008	8
2009	19
2010	18
2011	21
CONT 11	15
2012 (Feb)	2
TOTAL	119

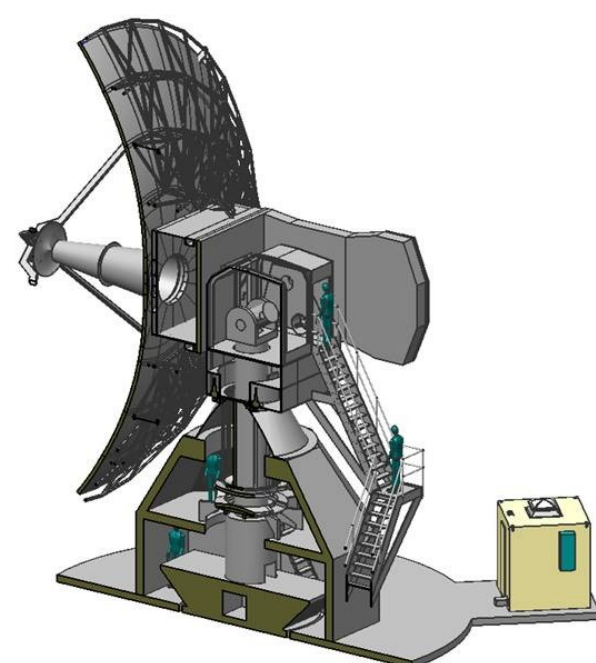


Geodetic VLBI observations started in 1995, using the 14-m radio telescope at Yebes Observatory. Studies of Earth rotation and plate motions (CORE / EUROPE projects) were performed, and comparison between VLBI and GPS measurements (S. García-Espada et al., 5th IVS GM 2008).

Setup for an automatic system based on robotic total stations to continuously monitor the Invariant Reference Point of the 40m radio telescope at the Yebes observatory (Santamaría-Gómez & García-Espada 2011).



Study of the troposphere ZTD of the co-located site Wetzell during CONT08. (in Teke et al., JoG 2010)



Status of construction of the RAEGE antennas (left: receiver cabins; right: counterweights).