

Observatorio Astronómico Nacional – Yebes

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Abstract

This report updates the description of the OAN facilities as an IVS network station. Most of the ongoing projects have already been described in detail in the IVS Annual Report for 2005. The most important news is that the construction of the new 40-meter radiotelescope is complete, and the antenna is now being commissioned.

1. General Information: the OAN Facilities

The Observatorio Astronómico Nacional (OAN) of Spain, which is a department of the Instituto Geográfico Nacional (IGN, Ministerio de Fomento), operates a 14 meter radiotelescope at Yebes (Guadalajara, Spain). This facility has been a network station of the IVS until 2003, and has participated regularly in the geodetic VLBI campaigns to study the tectonic plate motions in Europe, Earth rotation, and polar motion.

The construction of a new 40 meter radiotelescope is completed, and its commissioning has started. First-light receiver is a dual polarization cryogenic HEMT for the 21-24 GHz band. The new S/X receiver is under construction with some delay, and will be installed as soon as possible (but not before early 2008).

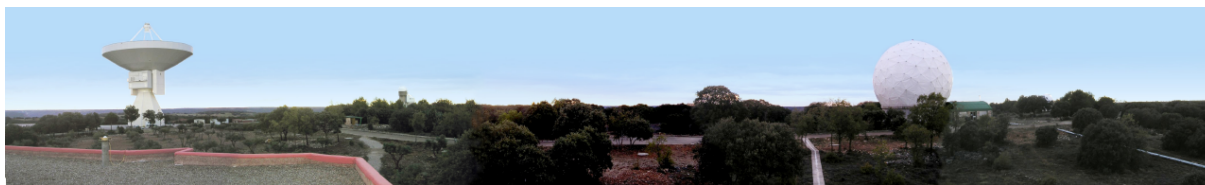


Figure 1. Panoramic view of the Yebes observatory, including the new 40-m (left) and the old 14-m (right, radome enclosed) radiotelescopes for geodetic and astronomical VLBI, and the antenna of the IGS station (on the roof of the building, left foreground).

2. OAN Staff Working in VLBI Projects

Table 1 lists the OAN staff who are involved in VLBI studies, some of which can be found at the telescope (CAY) address. The VLBI activities are also supported by other staff like receiver engineers, computer managers, secretaries and students.

3. Status of the Geodetic VLBI Activities at OAN

The main changes since the IVS Annual Report for 2005 are the completion of the construction of the 40-m radiotelescope, and the relocation of the VLBI and auxiliary equipment (GPS and H-maser) to the new premises.

Table 1. Staff in the OAN VLBI group (Email: vlbitech@oan.es).

Name	Background	Role	Address
Francisco Colomer	Astronomer	VLBI Project coordinator	OAN
Jesús Gómez-González	Astronomer	General Subdirector for Astronomy, Geodesy and Geophysics	IGN
Maria Rioja	Astronomer	Scientist (Astrometry)	OAN
Pablo de Vicente	Astronomer	VLBI Technical coordinator	CAY

4. Future Plans

The construction of a new building for the installation of permanent equipment for constant gravity monitoring is delayed and expected in 2007. Also the construction of a network of concrete pillars around the 40-m radiotelescope to measure the reference point of the instrument and the local tie to the old 14-m radiotelescope is planned for 2007.

References

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- [2] Azuaga, M., Serna, J.M., Miguel, A. “Medidas de los componentes del módulo de FI del RX banda X del RT de 40m del CAY”. Informe Técnico OAN 2006-13. (see <http://www1.oan.es/informes/archivos/IT-0AN-2006-13.pdf>).
- [3] Cordobés, D., de Vicente, P., Fernández, J., Almendros, C., Yagüe, J.M. “Traslado de los equipos de VLBI al radiotelescopio de 40m”. Informe Técnico OAN 2007-1. (see <http://www1.oan.es/informes/archivos/IT-0AN-2007-1.pdf>).