

Status of the TIGO-Project

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Abstract

In 2001 the Transportable Integrated Geodetic Observatory (TIGO), a fundamental station for geodesy, was prepared for its use at Concepción, Chile. While in Germany the last checks and tests had been made before its disassembling for transportation. In Chile an access road, the new TIGO platform, and its infrastructure had been prepared.

1. General Information

On January 21, 2000, it was decided that BKG's Transportable Integrated Geodetic Observatory would be installed at Concepción in Chile. On June 21, 2000, an arrangement of the cooperative operation of TIGO was signed between BKG and the Universidad de Concepción (UdeC) on behalf of a Chilean consortium consisting of UdeC, Universidad del Bío Bío (UBB), Universidad Católica de la Santísima Concepción and the Instituto Geográfico Militar of Chile.

The construction of the necessary infrastructure consisting of a 2.5 km access road, the TIGO platform with foundations and underground cable ducts including the geodetic monuments, communication lines, electricity, water supply, protecting fence, and office space for TIGO was initiated in 2001 and finished in early 2002 (fig. 1-3).



Figure 1. March 23, 2001. The access road to the TIGO platform is being prepared.

2. Component Description

The technical parameters of the TIGO radiotelescope have not been changed and have been published in [1].



Figure 2. September 7, 2001. TIGO platform with foundations for five containers (left) and the radiotelescope (right). Two of the reference pillars for controlling local site stability by local geodetic surveys can be seen at the far left side and next to camion with concrete at the far right side. In the foreground begins the excavation for the SLR-monument.

A new temperature controller based on SPS modules for the receiver box was designed, successfully tested and installed by Gerhard Kronschnabl. This development was a necessity after continuing failures of the original one.

In November 2001 the S2 VLBI system for TIGO was tested at Algonquin Park (fig. 4).

3. Staff

In the period of transition from Germany to Chile the TIGO VLBI module was supported by the persons listed in table 1.

In March 2001, Hase, Kronschnabl, and Carvacho participated in the IVS Technical Operations Workshop at Haystack Observatory.

With the installation of TIGO in Concepción new staff provided by the partners of the Chilean consortium for TIGO will be included in the VLBI group.



Figure 3. December 3, 2001. The platform is prepared with foundations, underground cable ducts and monuments for the reception of the TIGO containers with their telescopes and instruments.

Table 1. TIGO VLBI support staff in 2001.

Staff	Working Area	Email
Hayo Hase	TIGO VLBI module	hase@wettzell.ifag.de
Gerhard Kronschnabl	VLBA4 and receiver support	kronschnabl@wettzell.ifag.de
Armin Böer	electronic engineering support	boer@wettzell.ifag.de
Olaf Lang	meteorological sensor support	lang@wettzell.ifag.de
Wolfgang Schlüter	administrative support	schlueter@wettzell.ifag.de
Eduardo Carvacho	VLBI support in Chile	carvacho@udec.cl

4. Current Status and Activities

Since October 2001 the TIGO VLBI module has not been operable since it was disassembled and stored in its transportation containers. It was the first disassembly after its manufacture in 1995. On December 6, 2001, TIGO left Hamburg by ship and arrived at Puerto Lirquen near Concepción on January 11, 2002. The installation of TIGO will take place in early 2002.

The activities in 2001 had been focussed in Concepción on the construction of the TIGO platform and of the new monument for installing the radiotelescope.



Figure 4. November 22, 2001. TIGO's S2 Data Acquisition System under test at Algonquin Park.

5. Future Plans

The VLBI activities in 2002 at TIGO will consist of

- installation of the TIGO VLBI module at the site in Concepción,
- regular operation of the radiotelescope within the IVS observing programme,
- integration of the geodetic S2 data acquisition system to be used in parallel with the VLBA4 data acquisition system in order to enlarge the IVS network capabilities,
- education and training on geodetic VLBI operations of the Chilean staff,
- geodetic control measurements regarding site stability and the determination of eccentricities to other geodetic monuments (e.g. SLR, GPS, PRARE).

References

- [1] Vandenberg, N. R., "IVS Coordinating Center Report", in International VLBI Service for Geodesy and Astrometry 1999 Annual Report, edited by N. R. Vandenberg, NASA/TP-1999-209243, 1999.