

Report on VLBI Operations for Urumqi Observatory

Observing Sessions

- **EVN**

In session one, Nanshan station comprised nine experiments at 6cm, ten experiments at 18cm. Couple of experiments had minor failures that lost a few data while switched MK5's disk from bankA to bankB. In session two, four experiments at 6cm and six at 18cm. One was failed due to the C-band compressor, two was done by using normal temperature receiver. In total, the Nanshan telescope comprised 149 hours of observations.

- **NASA**

We were scheduled 5 experiments for NASA so far, with each last about 24 hours, the Cable Delay system was detected to have some problem from these observations.

- **LFVN**

From Jul 28 to Aug 4, Nanshan station comprised 50 hour LFVN experiments by using MKII system.

- **CHANG'E project**

Nanshan telescope was scheduled weekly VLBI observations. Formal observations started from Oct 24, and extensive observations will last till mid-Nov. We have to miss the third EVN session, and other projects will be halt temporarily till late Nov., 2007.

- **KAGUYA**

Three observations for Japanese KAGUYA satellite was successful and more observing time will be arranged in future.

Technical Developments

- **K5 & S-RTP**

In Feb, Japanese working team from JAXA visited Urumqi Observatory. The K5 terminal was installed successfully. In May, Japanese working team from NAOJ successfully upgraded S-RTP. Both K5 and S-RTP will be used for the KAGUYA project.

- **H-maser**

Three H-masers are running at Nanshan station, two of them (H13, H11) are the products of SHAO which were installed during 1990's. H11 was upgraded this year. The stability of the H13 and H11 were measured with inter-comparison as follows:

1s	10s	100s	1000s
1.0E-12	1.2E-13	2.2E-14	1.0E-14

Three adjustments were made for the main H-maser MHM2010 in 2007. First, the hydrogen pressure was adjusted twice in Jan. and Oct. respectively to increase the IF level. The synthesizer setting was modified by $-2.8E-13$ for frequency compensation in Oct.

- **1.3cm Receiver**

A new cryogenic receiver is under building. The feed-horn will be cooled, the test dewer is nearly finished. 3D-CATIA designs for the other units are partly done.

- **49cm, 92cm Receivers**

Both were completed in June.

- **6cm Receiver**

The failure of a cryogenic low noise amplifier at 6cm LHC was found, a backup one was installed on September.

- **Compressor**

Leakage was found for two CTI 1020R compressors at 6cm and 18cm in May, a new Sumitomo compressor CSA-71A was purchased.

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