Nanshan VLBI Station Report

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Abstract

We briefly report the activities and status of Nanshan VLBI station in 2004. The VLBI back-end has been upgraded to Mark 5A, and the Team China 3 visited the station in May.

1. Nanshan VLBI Station

The station is located about 70 km south of Urumqi, the capital city of Xinjiang Uigur Autonomous Region of China. The station is affiliated to Urumqi Astronomical Observatory of National Astronomical Observatories, Chinese Academy of Sciences. We are contributing to IVS in geodetic VLBI observations, as a network station.

2. Parameters of the System

We give some basic information of the VLBI system in Table 1.

Table 1. Some parameters of the VLBI system

parameters	**freq. range**
1.3cm, LCP, Tsys=190K, DPFU=0.057	22100-24000
3.6cm, RCP, Tsys=50K, DPFU=0.093	8200-8600
6cm, dual, Tsys=22K, DPFU=0.105	4720-5110
13cm, RCP, Tsys=75K, DPFU=0.096	2150-2320
18cm, dual, Tsys=21K, DPFU=0.088	1400-1720
30cm, LCP, Tsys=160K, DPFU=0.06	800-1200
92cm, LCP/RCP, Tsys=200K, DPFU=0.066	314-340
mk5A, mk4, mk2	available
antenna AZ/EL, size 25m	
GPS & TAC	

3. Staff

The staff is listed in Table 2. Most of the people are actively contributing to the IVS. The new director Dr. Wang Na and the new general engineer Ali Yusup will be nominated in the future.

4. Activities

In 2004, we have been involved in 12 IVS sessions, but we lost two sessions for LO problem, one for power failed and probably one for H-maser problem. We regularly participated in the

Table 2. Staff and their positions

staff	position
Dr Wang Na	station chief, n.wang@ms.xjb.ac.cn
Dr Liu Xiang	vlbi scientist, vlbi friend, liux@ms.xjb.ac.cn
Ali Yusup	antenna and general engineer, aliyu@ms.xjb.ac.cn
Chen Maozheng	receiver and back-end engineer, mzhchen@ms.xjb.ac.cn
Sun Zhengwen	receiver engineer
Wang Weixia	receiver engineer
Yang Wenjun	back-end and vlbi operator
Zhang Hua	vlbi operator
Li Guanghui	network manager
Ma Jun	receiver maintain
Wang Shiqiang	antenna maintain
Chen Chengyu	antenna maintain

EVN observations, Urumqi-Shanghai baseline satellite observations, Sino-Japan VLBI test and especially the Huygens international VLBI observations (with LCP in S-band at the last time!).

We successfully completed the Mark 5A upgrade at the station in Feb. 2004, become a Mark 5A station for geodesy. We invited Chopo Ma, Ed Himwich, Brian Corey, Richard Strand (called Team China 3) to visit the station in May in order to settle some problems and give training. It was a fruitful visit: we together fixed problems, e.g. 3 wrapped VCs etc., upgraded the Mark 5 and FS softwares, did sampler statistics and VC linearity measurements.

In addition, we upgraded 6cm band to dual polarization with a receiver system made by Max-Planck-Institute für Radioastronomie in Bonn in August. We installed a new 30cm feed on the primary focus, being available for observation.

5. Future Plan

We plan to have a new H-maser and upgrade the antenna control system and the S/X receiver system for Chinese Lunar project in 2005-2006. A new feed for both 92cm and 49cm band is also planned.