

Sheshan VLBI Station Report for 2012

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Abstract

This report summarizes the observing activities at the Sheshan station (SESHAN25) in 2012. It includes international VLBI observations for astrometry, geodesy, and astrophysics and domestic observations for satellite tracking. We also report on updates and on development of the facilities at the station.

1. General Information

The Sheshan VLBI station (SESHAN25) is located at Sheshan, 30 km west of downtown Shanghai. It is hosted by the Shanghai Astronomical Observatory (SHAO), Chinese Academy of Sciences (CAS). A 25-meter radio telescope is in operation at 1.3, 3.6/13, 5, 6, and 18 cm wavelengths. The Sheshan VLBI station is a full member of the IVS and EVN. The SESHAN25 telescope takes part in international VLBI sessions in astrometric, geodetic, and astrophysics research. Apart from its international VLBI activities, the telescope spent a large amount of time on the Chinese Lunar Project, including the test observations and the tracking campaign of Chang'E-2.



Figure 1. SESHAN25 Radio Telescope.

2. VLBI Observations in 2012

In 2012, SESHAN25 participated in 19 IVS sessions (including six INT3 Intensive sessions). SESHAN25 also participated in the EVN sessions in February and October. Because of a VSI-C

card problem, there were no fringes found in R1539 and R1540. In the Chinese Chang'E-2 Lunar Exploration Project, SESHAN25 observed the Chang'E-2 satellite for two or three sessions per week.

3. Development and Maintenance of Sheshan Telescope in 2012

A new pcal unit for S/X band was installed in December 2012. The pcal was injected before the LNA and after the feed. The pcal unit's input is 10 MHz from the H Maser. The pulse intervals can be adjusted by FS to 500 KHz, 1 MHz, 2 MHz, 5 MHz, or 10 MHz. Most of the time it works in 1 MHz mode.

We performed routine maintenance of our antenna from May to June. It included changing the gear box, painting, and control room decoration.

4. The Staff of the Sheshan VLBI Station

Table 1 lists the group members of the Sheshan VLBI Station. The staff are involved in the VLBI program at the station with various responsibilities.

Table 1. The staff of the Sheshan VLBI Station.

Name	Background	Position & Duty	Contact
Xiaoyu HONG	Astrophysics	Director, Astrophysics	xhong@shao.ac.cn
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5. Outlook

In 2013, the Sheshan radio telescope will take part in 14 24-hour IVS sessions and 12 INT-3 sessions.