

**PROGRESS ON CHINESE VLBI NETWORK PROJECT**

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**SUMMARY OF THE CHINESE VLBI NETWORK PROJECT**

The Chinese VLBI Network (CVN) project is supported by the Astronomy Committee, Chinese Academy of Sciences. At present, the CVN project consists of three dedicated VLBI stations, two part-time VLBI stations, and a data analysis center. The sites and equipment of the CVN stations are listed in Tables I and II, respectively. The current status of the CVN data analysis center will be described in the last section of this paper.

**Table I      The Sites of CVN Stations**

<b>Name</b>	<b>Location</b>	<b>Lat. N (°')</b>	<b>Long. E (°')</b>
<b>Sheshan Radio Astronomy Station</b>	<b>Sheshan, Songjiang County, Shanghai</b>	<b>31 06</b>	<b>121 12</b>
<b>Urumqi Radio Astronomy Station</b>	<b>near Urumqi, Xinjiang Province</b>	<b>43 30</b>	<b>87 13</b>
<b>Kunming Radio Astronomy Station*</b>	<b>Kunming, Yunnan Province</b>	<b>25 01</b>	<b>102 47</b>
<b>Miyun Synthesis Radio Astronomy Station</b>	<b>Miyun County, Beijing</b>	<b>40 40</b>	<b>117 58</b>
<b>Qinghai Mm-wave Radio Astronomy Station</b>	<b>Delinghai, Qinghai Province</b>	<b>37 21</b>	<b>97 36</b>

\*The construction will be in collaboration with the Institute for Applied Astronomy, U.S.S.R.

Table II The Equipment of CVN Stations

Station		Dedicated			Part-Time	
		SH	UR	KM	MY	QH
Antenna (m)		25	25	32	47*	14
Receivers	330-MHz	†	+	-	+	
	610-MHz	+	+	-		
	1.4-GHz	†	+	-		
	1.6-GHz	†	+	-		
	2.3-GHz	†	+	-		
	4.9-GHz	†	+	-		
	8.4-GHz	†	+	-		
	10.7-GHz	†	+	-		
	12.2-GHz	†	+	-		
	22.2-GHz	-	-	-		†
Data Acquisition Terminals	Mk II	†	†	†	+	+
	Mk III or VLBA	†	-	-		-
Frequency Standards	H maser	†	+	+		-
	Rb	†	†	†	-	
Timing Receivers	Loran-C	†	†	†		
	GPS	†	+	-	-	-
Operation Start		87	92	94	92	92

\* Equivalent diameter.

Codes: † Available; + Fabrication started or ordered; - Planned.

### SHESHAN RADIO ASTRONOMY STATION (SRAS)

SRAS is located at Sheshan, south-west of Shanghai suburbs, about 30 km away from the city of Shanghai. It has been operational since June 1987 and has now become an associate member of European VLBI Consortium. At present, SRAS is the only station in China capable of participating in international VLBI experiments. The international VLBI observation programs that involve SRAS are as follows:

- China-Japan VLBI cooperative program;
- China-Germany Geodetic VLBI observation program;
- 327 MHz VLBI survey program (in collaboration with USSR, India, and the Netherlands);
- CDP VLBI observation program (GSFC/NASA);
- EVN or Global astronomy VLBI observation programs (if SRAS is required).

### URUMQI RADIO ASTRONOMY STATION (URAS)

The site of URAS, which is located in foothills about 2000 m above sea level and 50 km away from Urumqi, the capital of the Xinjiang Province, has been chosen and is under construction. The installation of a 25-m antenna at the site will start in the middle of 1991, and the station will be in operational in late 1992. The timetable of the construction of URAS is briefly described below.

1987 Jun.	25-m antenna ordered
1989 Jan.	Fabrication of hydrogen maser started
1989 Oct.	Decision of the site made
1990 Jan.	Fabrication of receivers started
1990 Dec.	Decision of VLBI data acquisition system will be made
1991 Jun.	Installation of 25-m antenna will be started
1991 Dec.	Receivers, VLBI Mk II terminal, hydrogen maser will reach site
1992 Jun.	First VLBI test observations

### CVN DATA ANALYSIS CENTER (CDAC)

The CVN Data Analysis Center is located in Shanghai and operated by Shanghai Observatory. At present, the data correlation and postcorrelation for the VLBI observations using the Mk II system and the data analysis for both astronomical and geodetic VLBI experiments can be done in the center. A VLBI S-3 correlator compatible with Mk III and VLBA systems is planned. The main facilities in the center are listed in Table III.

Table III The Facilities of the CVN Data Analysis Center

Facilities	Available	Remark
VLBI Correlator: S-2	1988	Compatible with Mk II
S-3	1993/94	Compatible with Mk III and VLBA
Computer:		
HP-1000 F series	1985	For the data analysis of astrometric and geodetic VLBI Mk III experiments.
MicroVAX II	1988	For the postcorrelation of the data from S-2 correlator and the data analysis of continuum and line VLBI experiments.
VAX 3800	1991	VLBI data analysis
Sun 4/11	1991	VLBI data analysis

**Peter Wilkinson:** What is the surface accuracy of the 25cm telescope at Shanghai?

**Qian Zhihan:** (No written response provided, but Peter tells us that the answer was 0-6mm)

**Toshi Takano:** Your telescope in Shanghai is located on the building. Don't you have any problems such as tilting on pointing accuracy of the telescope?

**Ye Shuhua:** The building on which the 25m antenna is located is strongly connected on the foundation and is itself strongly structured as well. We haven't found any serious problem which causes a large pointing error yet. Of course, we will do further investigation about this problem, because we plan to extend our antenna to  $\lambda$  7mm . **Qian Zhihan**