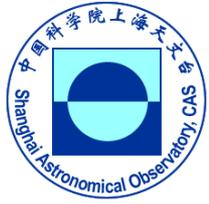




# Asia-Oceania VLBI 2015

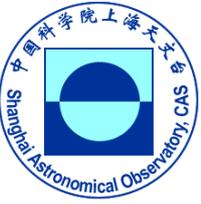


## Status of Shanghai VLBI stations

Bo Xia  
bxia@shao.ac.cn



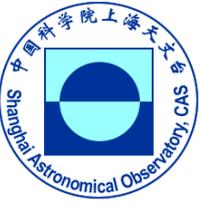
# Contents



- **Sheshan 25m station**
- **Tianma 65m station**
- **Future plans**



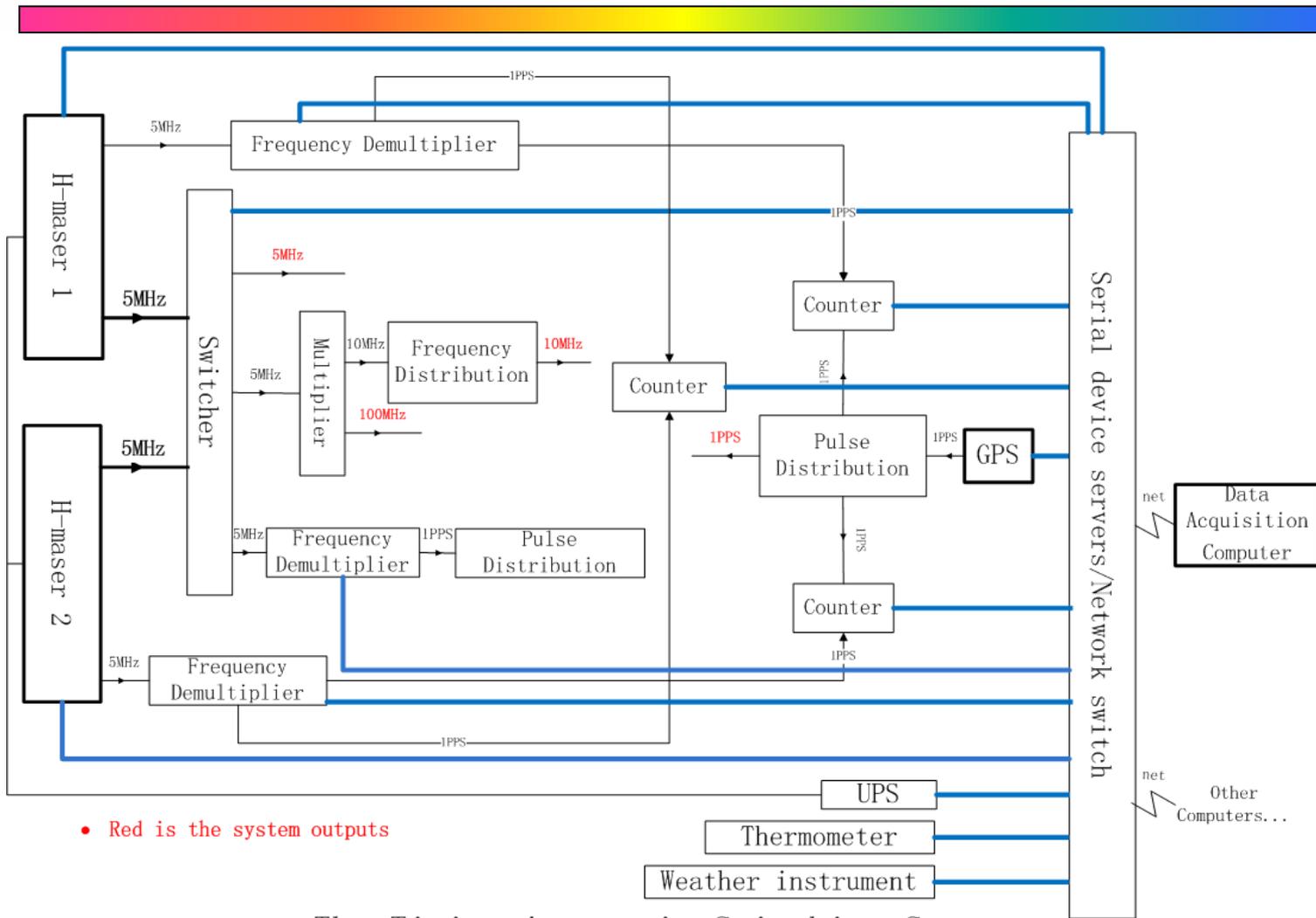
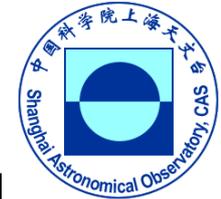
# Abstract (Sheshan25m)



- 1. located at the foot of Sheshan, 30 km west of Shanghai.**
- 2. This telescope is also called as 'SESHAN25' in geodetic community.**
- 3. Member of IVS, EVN, APT and so on.**
- 4. was taken in full operation since 1987.**



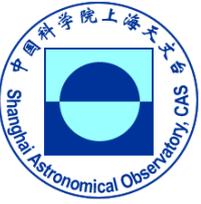
# Timing



The Timing Automatic Switching System



# Receiver



## •S/X

X-band: 8.2-9 GHz (cool)

S-band: 2.2-2.4 GHz (room temperature)

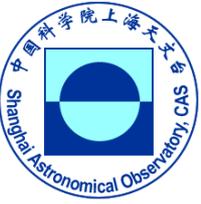
•C 6cm: 4.65 GHz-5.15 GHz (cool)

• 5cm: 5.975 GHz-6.825 GHz (room)

•L 1600-1740 MHz (room temperature)



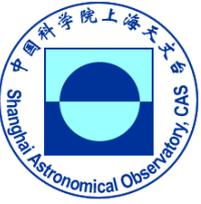
# Antenna



- Brief description of SESHAN25 facilities :  
owner and operation agency : Shanghai Astronomical Observatory (SHAO)  
year of construction : 1987  
diameter of main reflector (d) : 25 meter  
Longitude :  $121^{\circ} 11'59''\text{E}$   
Latitude :  $31^{\circ} 05'57''\text{N}$   
Elevation : 5 meter  
Antenna type : Cassegrain beam wave-guide  
Seat-rack type : Azimuth-pitching ring



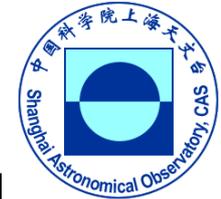
# Terminal



- **ABBC:** a VLBA formatter and a VSI-C card with a Mark5B+  
in EVN & IVS observation.
- **CDAS:** CDAS with a Mark5B+  
in CVN observation.

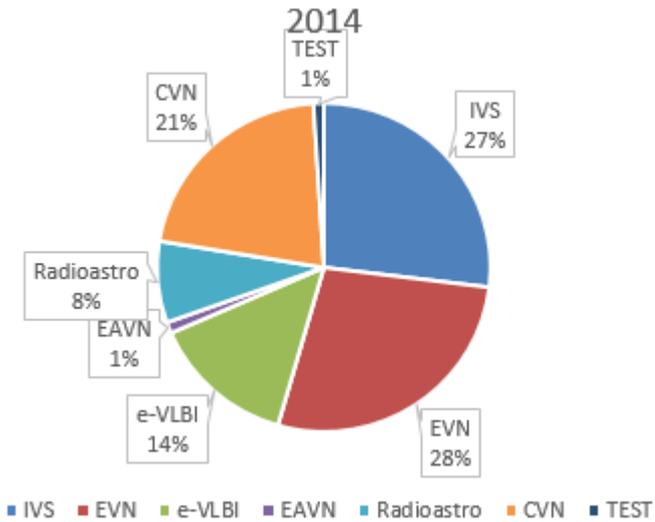
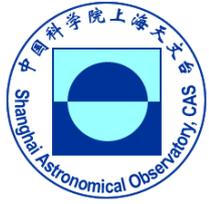


# ABBC

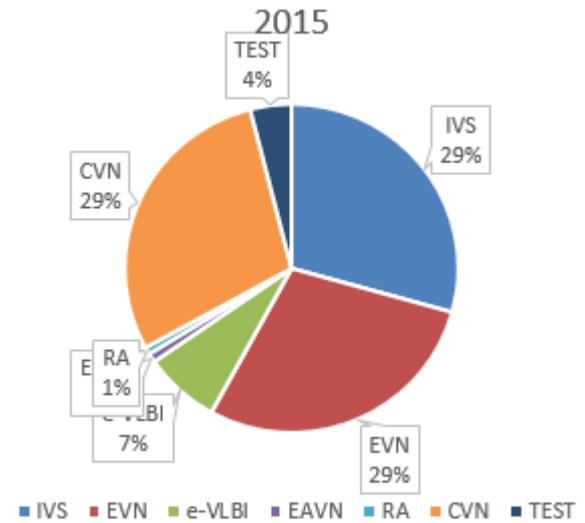




# Observing



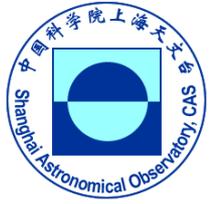
2014 observing for Sheshan 25m (hr)



2015 observing for Sheshan 25m (hr)



# Abstract (Tianma65m)



- 1. located in the western suburbs of Shanghai**
- 2. construction started in early 2009, and was completed in October 2012. On December 2nd, 2013, Tianma telescope passed the acceptance evaluation.**
- 3. a multifunction facility, conducting astrophysics, geodesy, astrometry, as well as space science.**



# Receiver

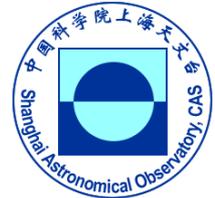
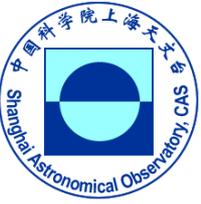


表 1 接收机性能参数

波段	L	S	C	X	<u>Ku</u>	K	<u>Ka</u>	Q
波长	18&21cm	13cm	5&6cm	3.6cm	2.2cm	1.3cm	9mm	7mm
频率 (GHz)	1.25-1.75	2.2-2.4	4-8	8.2-9.0	12-18	18-26.5	30-34	35-50
带宽 (GHz)	0.50	0.20	4.00	0.80	6.00	8.50	4.00	15.00
带宽比 (%)	33	9	67	9	40	38	13	35
$T_{sys}$ (K)	22	22	20	25	27	46	38	56
$T_{sky}$ (k)	12	12	10	10	12	25	13	26
$T_{Rx}$ (K)	10	10	10	15	15	21	25	30
馈源	紧缩	圆锥	圆锥	圆锥	圆锥	圆锥	圆锥	圆锥
效率	0.6	0.6	0.6	0.55	0.4	0.5	0.5	0.45
极化	线极化	左右旋	左右旋	左右旋	左右旋	左右旋	左右旋	左右旋
状态	安装	安装	安装	安装	安装	研制中	安装	研制中



# Terminal



- **DIBAS: Single-dish observations**
- **DBBC2: IVS & EVN observations**

**4IFs \* 256MHz ( increase 2 IF)**

**Bandwidth 0.5\1\2\4\8\16 MHz**

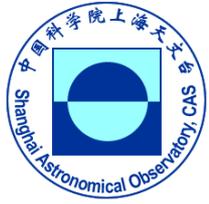
- **CDAS: CVN observations**

**4IFs \* 512MHz**

**Bandwidth 0.5\1\2\4\8\16\32 MHz**

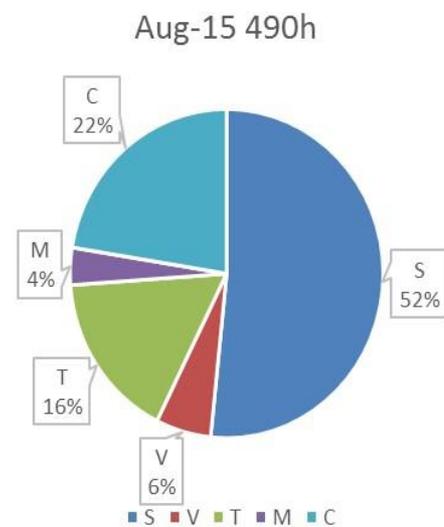
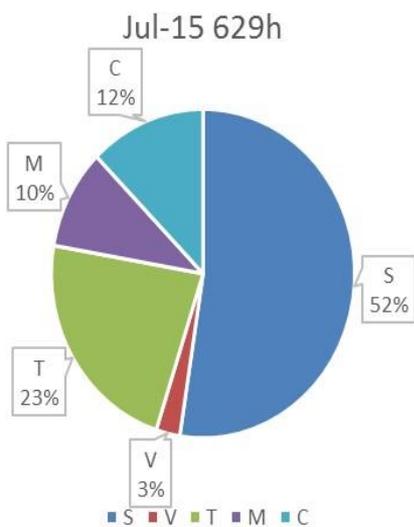
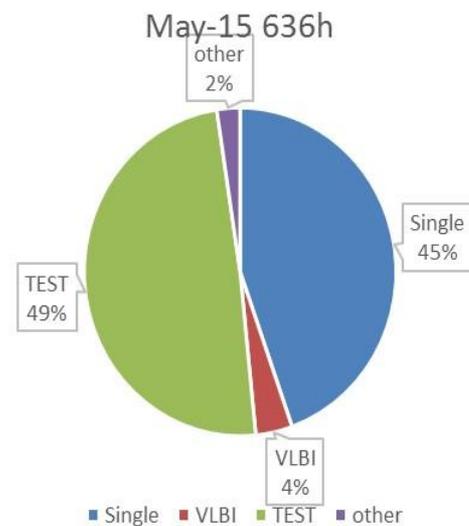
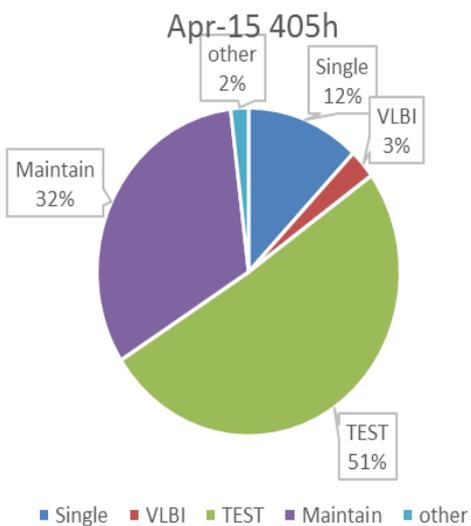
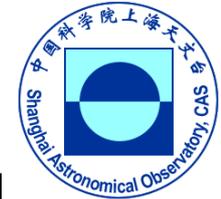


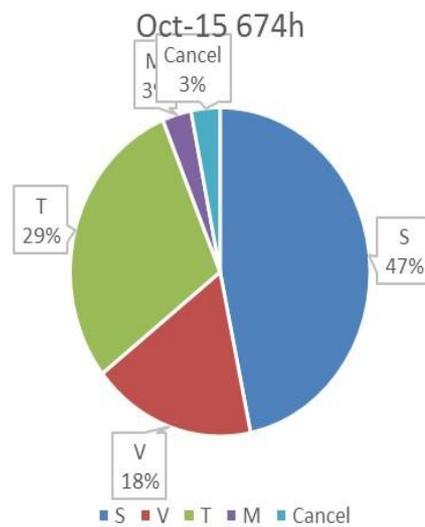
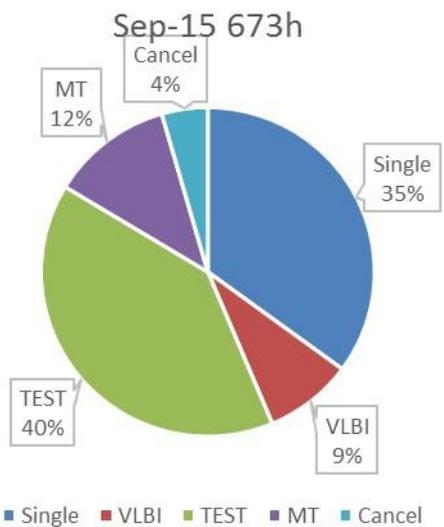
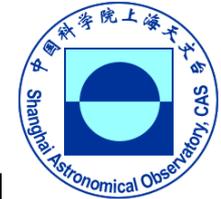
# DBBC2 & CDAS





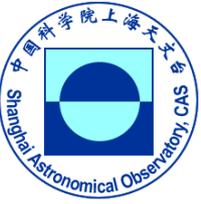
# Observing







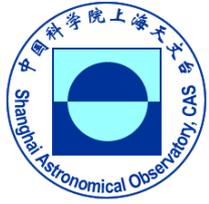
# e-transfer



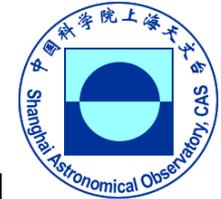
- **The light path of Sheshan 25m was got through in year of 2008.**
- **Tianma 65m (2015-04)**
- **Total speed: 1.5G bps**

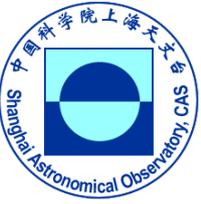


# Upgrade with Sheshan 25m



- **Antenna maintain had been taken place during Nov. 2015 to Feb. 2016. (incould track, cable wrap and so on)**
- **A new DBBC2 will be installed in the end of this year.**





**Thanks!**