

Station report for EVN TOG meeting, Bonn, Germany, May 5-6, 2020

Kunming Station, Yunnan, China

Kunming 40 meters telescope, Km

The Kunming station has become the associate member of EVN in 2019.

Receivers:

Currently Kunming 40m telescope can operate in three bands:

2 GHz (S-band, normal): LO 2000 MHz, IF1(HTS filter): 174-301 MHz; or IF2(normal filter):160-314 MHz.

4-8 GHz (C-band, cooled), LO Optional, IF1:70-512 MHz; or IF2: 70-1024 MHz.

8 GHz (X-band, normal): LO 8100 MHz, IF: 100-900 MHz.

All bands can provide dual circular polarization. The LOs of S and X bands are not adjustable, and the LO of C band is adjustable (from 4 GHz to 8 GHz).

Data acquisition systems:

In 2019 the DBBC2 and Mark6 were installed in Kunming stations, so now we have two systems DBBC2/Mark6 and CDAS (Chinese VLBI Data Acquisition System)/Mark5b.

DBBC2: 4xADB3L, Internal Fila10G, DDC v107

Mark6: 32TB×2+16TB×2=96TB, jive5ab 2.8.1, 64bit, 10GbE

Mark5b: 16TB×4=64Tb, jive5ab 2.9.0, 64bit, 10GbE

FS version is 9.13.1 for DBBC2/Mark6, and 9.10.4 for CDAS/Mark5b.

Time and frequency synchronization:

Three Hydrogen Masers provide 5 MHz and 1PPS (Old two code “#89” and “#97”; another new one code “MHM2010”, usually we use MHM2010)

GPS receiver provide 1 PPS to the H-maser.

Local NTP server.

DBBC2 and CDAS receive 10 MHz synchronization from H-maser. All PCs include DBBC2, CDAS, Mark6, Mark5b, FS, antenna control computer obtain NTP time from the local NTP server.

VLBI observations

NME experiments in Kunming station:

N19C2, http://old.evlbi.org/tog/ftp_fringes/N19C2/

N19X1, http://old.evlbi.org/tog/ftp_fringes/N19X1/ First time obtain fringes to use DBBC2

N19SX2, http://old.evlbi.org/tog/ftp_fringes/N19SX2/ Kunming Station used the two systems to observe simultaneously, CDAS/Mark5b for Km and DBBC2/Mark6 for Kd.

N19C3, http://old.evlbi.org/tog/ftp_fringes/N19C3/ Two systems to observe simultaneously.

N19M3, http://old.evlbi.org/tog/ftp_fringes/N19M3/ Two systems to observe simultaneously.

EVN observations in Kunming station:

EM137, EM140A, EY033B, EY033C, EK045B, EK045C, EG103B

E-VLBI observations in Kunming station:

RSM05, RY008

Future plans

We will upgrade the current 1 Gbps network to 2 Gbps or more to participate in more e-VLBI observations.

We will reinstall a FS computer and install the latest FS software for DBBC2/Mark6.

A Mark6 is ready to be shipped to JIVE.

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