

Status of EVN Amplitude Calibration

Session 3/2012

The following table shows the median absolute amplitude error for EVN stations in the third session of 2012 (Oct/Nov). These results were derived from the pipeline amplitude self-calibration results. The number in brackets after each entry is the number of experiments that were used to determine the median error for that entry.

Station	18 cm	6 cm	5 cm
Jb2	0.08(6)	0.13(9)*	0.11(6)*
Ef	0.06(6)*	0.05(8)	0.04(7)
Mc	0.08(2)	0.03(9)	0.08(7)
On	0.06(4)	0.05(8)	0.11(7)*
Tr	0.07(6)	0.03(9)	0.04(7)
Wb	0.03(6)	0.02(9)	0.09(6)*
Ys		0.03(8)	0.04(7)
Nt	0.07(6)	0.10(8)	0.07(9)
Hh	0.03(3)	0.04(3)	
Ur	0.14(3)*	0.07(6)	
Sh	0.10(4)	0.05(6)	
Bd	0.07(3)	0.05(6)	
Zc	0.06(3)	0.14(5)*	
Sv			
Ar	0.05(2)		
Ro	0.05(1)		

The blank entries indicates insufficient data. The numbers above are the median absolute error in the antenna gain amplitude (as calculated from pipeline amplitude self calibration). A value above 0.1 indicates a significant error which should be investigated. In addition to the absolute errors summarized here, the EVN pipeline provides details on every experiment processed at JIVE including the sign and time variability of the errors. In each experiment, the self-calibration results of a bright and compact source were used to get the reliable results. Note that nominal SEFDs, listed in the EVN status table, were used to make antab files for Bd, Sv, Zc.

*Jb2: Jb1 was replaced by Jb2 in the session. There are no stable system due to the e-MERIN construction. Thus, there were no reliable rxg file available. All the Jb antabfs files were made by Jun Yang at JIVE. Note that Jb2 sensitivity at both 18cm and 6cm is back to its normal level (Tsys

~50 K).

*Zc: No Tsys data available. It seems that ZC has an improved sensitivity now. If it is true, the nominal SEFD~400 Jy should be changed to 300 Jy at 6cm.

*On: Tsys was slightly (~8%) higher at 5cm.

*Ur: Tsys was systematically higher (~1.3x) in RCP and lower (~0.9x) in LCP. The L-band rxg files was from Jun 2012 and should be updated.

*Ef: Amplitude calibration was not as good as before because its DBBC 16MHz filter caused over-high correlation amplitude after removing side channels.

*Wb: Single dish was used at 5cm. The AIPS gain factor was ~2, quit high in ES069A, B, C, D.

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