LBA activities – busy week 24-28/1/22 (Neal, Des, Deepika, Mamta, Frits)

Aims:

investigate whether LBA observations can be routinely phase-calibrated, using 3C225 (40Jy) dataset which has LBCS calibrator (1.5Jy) 1 deg away

Investigate whether LBA-LiLF pipeline will work reliably with LBA+IB

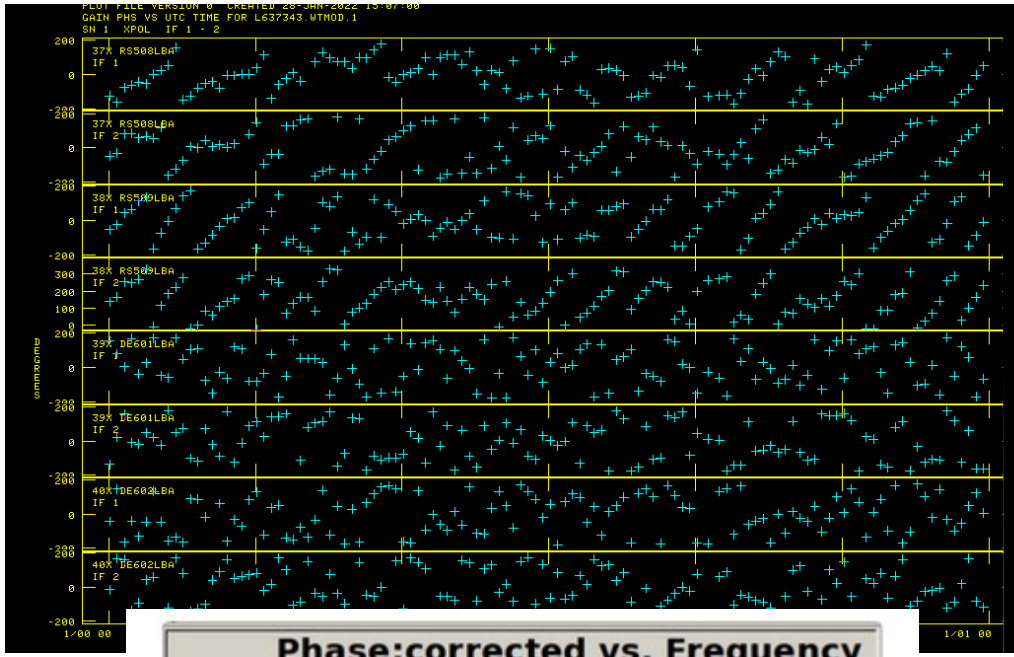
Investigate whether LBWG pipeline will work reliably with LBA

Bottom-line conclusions:

(1) no – fringe fits of LBCS calibrator compared with field the other side of 3C225 show that any coherent solutions in the LBCS field are dominated by 3C225. (Done using AIPS and also the CASA fringe fitter)

(2) remainder ongoing

For the future: need a commissioning proposal to look at brighter LBCS calibrators


GAIN PHS VS UTC TIME FOR L637343.UTMOD.1
SN 1 XPOL IF 1 - 2
37X RS508LBA
IF 1
37X RS508LBA
IF 2
38X RS509LBA
IF 1
38X RS509LBA
IF 2
39X DE601LBA
IF 1
39X DE601LBA
IF 2
40X DE602LBA
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40X DE602LBA
IF 2
1/00 00
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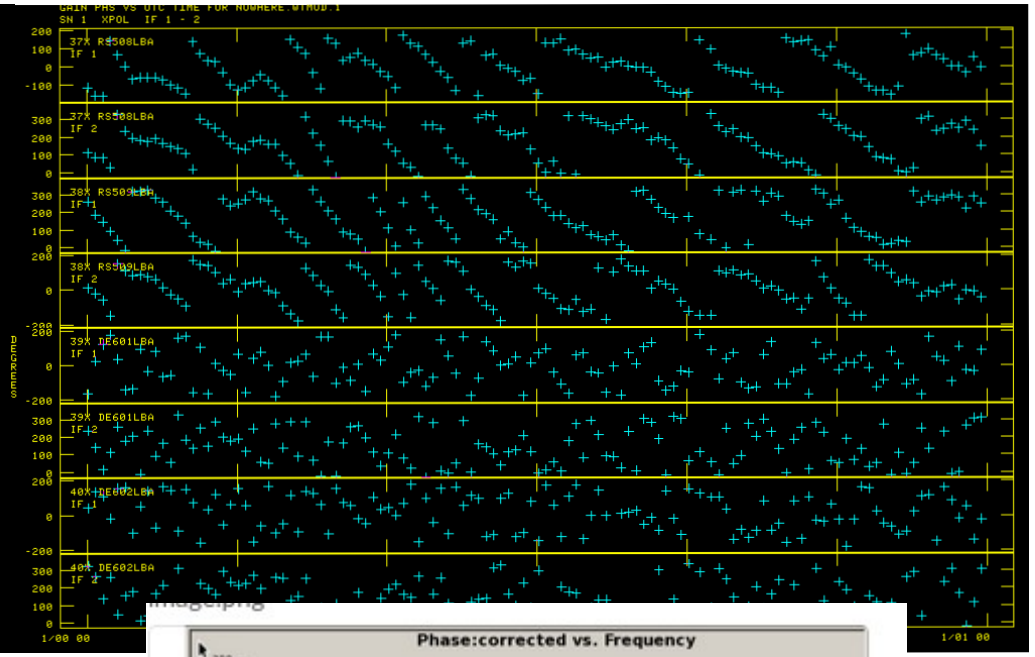
GAIN PHS VS UTC TIME FOR NOWHERE.UTMOD.1
SN 1 XPOL IF 1 - 2
37X RS508LBA
IF 1
37X RS508LBA
IF 2
38X RS509LBA
IF 1
38X RS509LBA
IF 2
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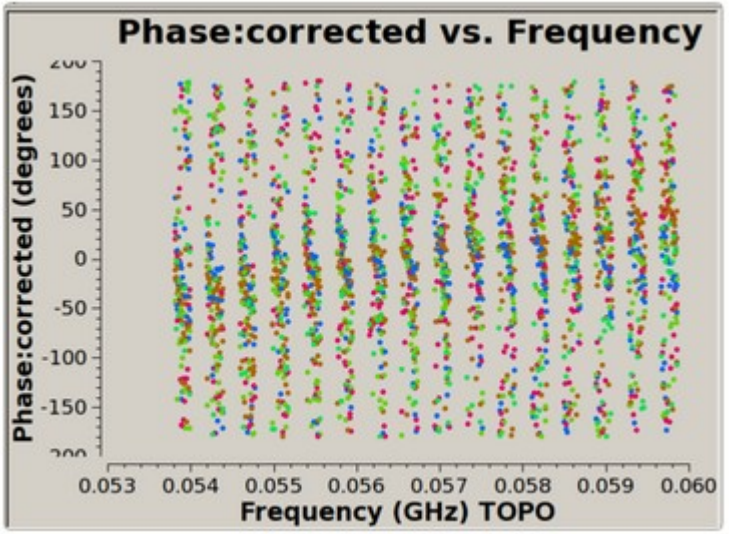
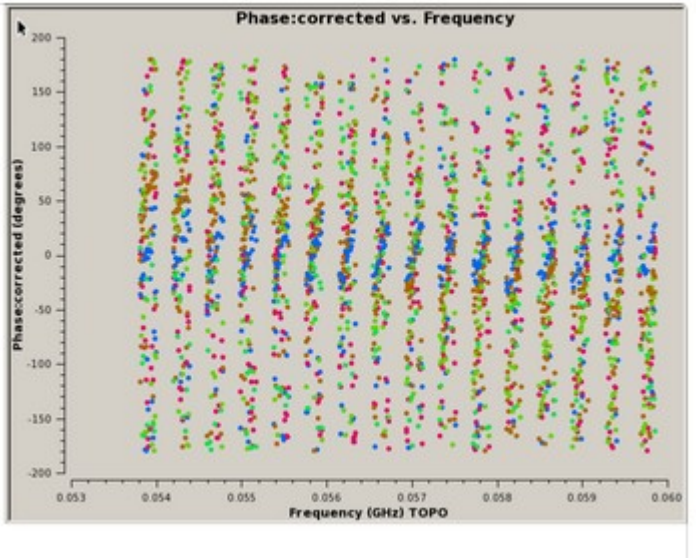
IF 1
40X DE602LBA
IF 2
1/00 00
1/01 00


Phase:corrected vs. Frequency
Phase:corrected (degrees)
Frequency (GHz) TOPO
0.053
0.054
0.055
0.056
0.057
0.058
0.059
0.060


Phase:corrected vs. Frequency
Phase:corrected (degrees)
Frequency (GHz) TOPO
0.053
0.054
0.055
0.056
0.057
0.058
0.059
0.060

* No difference in solutions, output coherence or closure phase between LBCS and Nowhere Field
* Solutions therefore due to 3C225 (40Jy) not the fields on either side (1.5Jy, 0Jy)
* Implies 1.5Jy compact sources not usable for LBA calibration (would be fine for HBA)
* VLSS: 1/sqdeg at 1.5Jy, 0.15/sqdeg at 4.5Jy
* LBCS: 171 sources >1.8Jy implied compact flux within 40 deg radius of 3C196
* Probably worth having a look at these (say 10 beams+3C196, 0.5h x 8h)