

Bootes Field

Commissioner: Louise Ker

Dates of Testing: 11-18th July

Data:

4 subbands

Node:

lce072

Goal: Another test of imaging a deep field without a strong source in the centre.

Pre-Processing:

Data are already flagged with aoflagger & MADflagger. No additional manual flagging necessary.

Calibration:

All four subbands were demixed to remove influence of A-Team (specifically CasA, CygA, HerA, & VirA, based on plots of elevation.).

The demixed data looked good, aside from two short timeranges with large spikes. Further investigation showed to be from a bad station, CS501, which was flagged. After this, whilst data from three subbands looked excellent, one had large spikes which required flagging. Currently investigating the causes behind this.

The skymodel was obtained from a VLSS 8x8 deg image of the field & PyBDSM. The three international stations were flagged, as this starting model has a low resolution.

A global calibration on four subbands using direction independent gain was run using BBS, taking ~1hr to run. Note that a one subband calibration was also run, but in common with other commissioners' findings, the global calibration does better.

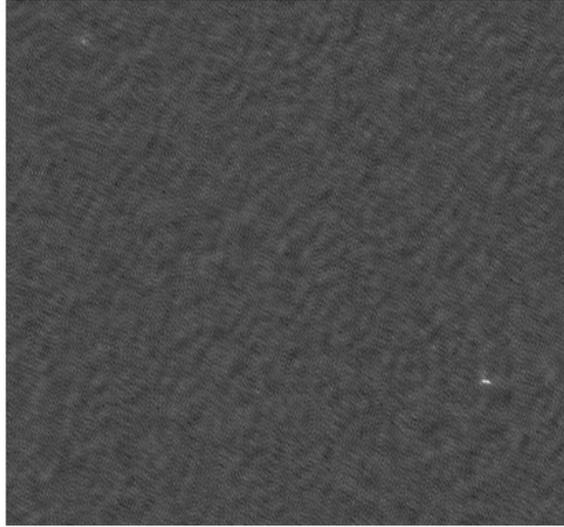
Solutions were then flagged. The corrected data were noisy, and additional flagging was required.

Imaging:

Data were imaged using Casapy Clean, for 50000 iterations, uniform weighting, 256 wprojplanes and a cellsize of 25" .

Next steps:

Add additional subbands to the global calibration. There are clearly still problems with the calibration present, which need to be investigated. Removal of the patch specification in BBS is needed for further improvement, and to allow correct subtraction of the bright 3C source.



Small image cut out of the Bootes field, showing the brightest source, 3C294 in the lower right hand corner. The double structure of 3C294 is recovered well, despite being modelled as a point source from the VLSS image. Noise levels ~ 80 mJy.