LOFAR Beam-formed Modes

PWG User Experience - 2nd LOFAR Users Meeting

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Since last year

Big progress (thanks!)

- COBALT BF modes running!

- BF + IM modes again possible.

- Automated pipeline processing and archiving via MoM!

- Science Support runs pulsar observations!

- Some tentative moves towards parallel observing.

System Stability

- Stability and station health - particularly the oscillating tiles - **is a *major* concern.**

- More careful record of system health monitoring.

- Again several months of low-quality data because of incorrect phase calibration table.

- Need to have careful tracking of phase-calibration table changes *and* any clock changes.

LTA

- Still really painful to find/retrieve data. Can't even search on position and observing dates?!

- Data stored based on pipeline ID, and no link to observation ID.

- Few instances where LTA was down but there was no announcement of such.

Beam Model

- None of the existing beam models seem to do a great job with our data.

- Flux calibration remains challenging and imprecise (how is imaging doing?).

Needed Functionality

- Online RFI flagging (allows rejection of single stations).

- Writing out data as 8, 4, 2, or 1-bit samples.

- More metadata (e.g. flagged tiles written to BF headers, BF calibration table).

- Very regular FE observations and station tests until the tile issue is no longer a problem.