# Prefactor - The LOFAR pre-facet calibration pipeline

## **Overview**

The official repository of prefactor is now on GitHub: https://github.com/lofar-astron/prefactor

I consists of parsets for the genericpipeline that do the first calibration of LOFAR data. Originally in order to prepare said data for the Factor facet calibration (https://github.com/lofar-astron/factor), but also useful if you don't plan to run Factor.

#### It includes:

- clock-TEC separation with transfer of clock from the calibrator to the target
- · some flagging and averaging of amplitude solutions
- diagnostic plots
- · at least some documentation

There are several pipeline parsets in this repository:

- Pre-Facet-Cal.parset: The "standard" pre-facet calibration pipeline, works on pre-NDPPP'ed data
- Pre-Facet-Cal-RawData-Single.parset : A pre-facet pipeline to work on raw (non NDPPP'ed) data
- **Pre-Facet-Cal-RawData-PreAvg.parset**: A pre-facet pipeline to work on raw (non NDPPP'ed) data that does the subband concatenating in the first NDPPP step. (To reduce the number of files on systems where this is a problem, e.g. JURECA)
- **Initial-Subtract.parset**: A pipeline that generates full FoV images and subtracts the sky-models from the visibilities. (Needed for facet-calibration, this could also be done as the first step of Factor.)

# **Software requirements**

- the full "offline" LOFAR software installation version >= 2.15
  (With small modifications the Pre-Facet-Cal pipelines can be run with older versions, but that is not supported by the authors anymore.)
- LoSoTo
- Python-PP (see http://www.parallelpython.com/ or https://pypi.python.org/pypi/pp )
- · Python matplotlib
- WSClean (for Initial-Subtract, version >=1.9)

## **Documentation**

There is a preliminary version of a cookbook chapter at:

https://github.com/lofar-astron/prefactor/blob/pdf-doc/docs/cookbook\_prefacet.pdf **Please read that first!** 

09:17

## **Usage Notes**

- Don't edit the original parset files directly. Make a copy with a descriptive name (e.g. Pre-Facet-Cal-calibrator-3c295.parset) and edit that copy.
- Get someone to write a better documentation for the genericpipeline.

## **FAO**

**KeyError 'mapfile':** Your pipeline run fails like that:

That happens when one step didn't generate a mapfile. Usually that means that the pipeline was looking for its input data, but couldn't find any files that match. Please check your \*\_input\_path and \*\_input\_pattern in the parset file! (Note: ls -d \*\_input\_path/\*\_input\_pattern should find your data.)

From

https://www.astron.nl/lofarwiki/ - LOFAR Wiki

Permanent link:

https://www.astron.nl/lofarwiki/doku.php?id=public:user\_software:prefactor&rev=1454923063

Last update: 2016-02-08 09:17

