ASTRON

Netherlands Institute for Radio Astronomy

The updated Northstar proposal submission tool

L. Cerrigone

Update goals

Reasons for updating:
several users experienced problems when preparing their proposals

For example:

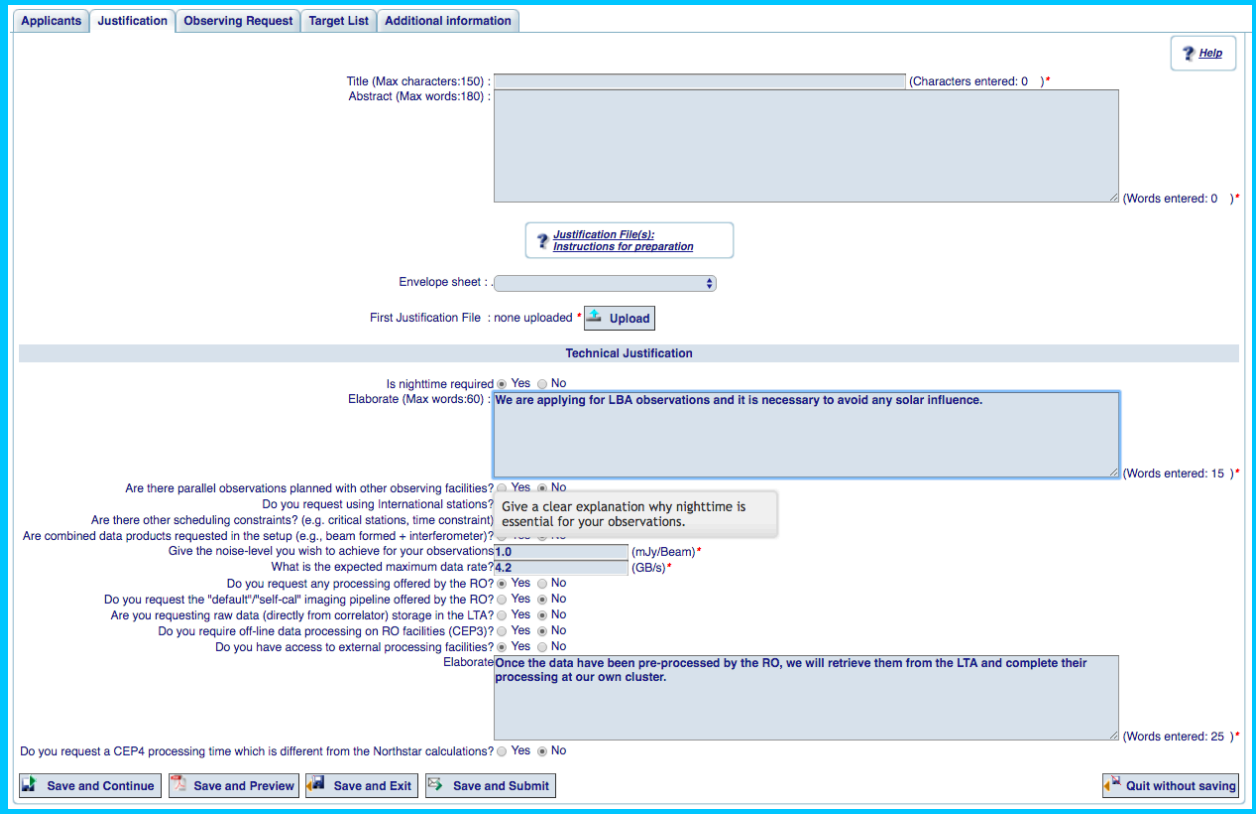
- uploading long lists of targets (more than 200)
- wrong data size
- wrong processing time

Main goal of the update: fixing known (reproducible) issues

No changes were implemented for TBB proposals

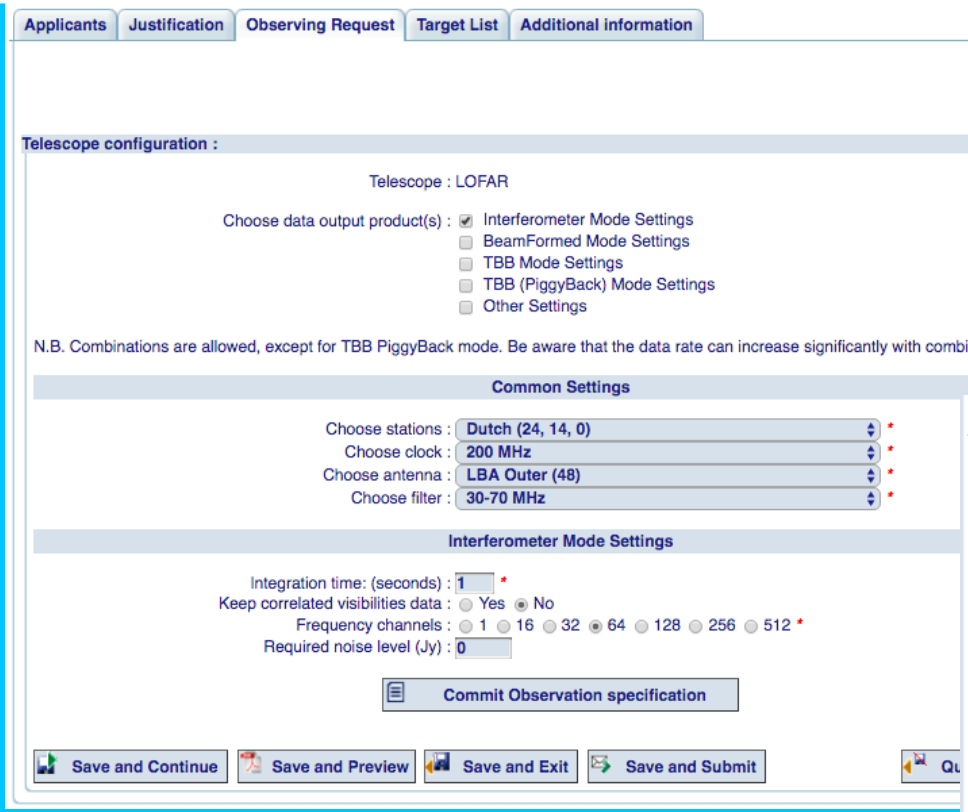
The Justification tab

The general aspect of the tool remains unchanged.

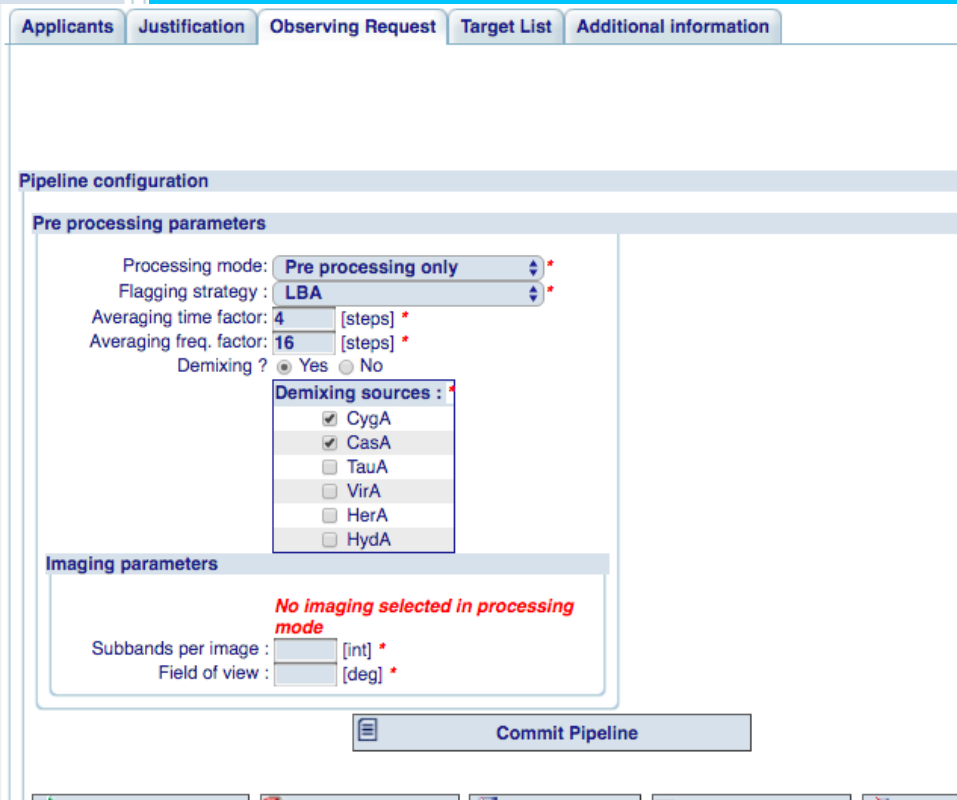


Questions and boxes in the Justification tab were adjusted so that all boxes show up when they need to.

Interferometric setup



The observing and pipeline setup sections will look as they used to.

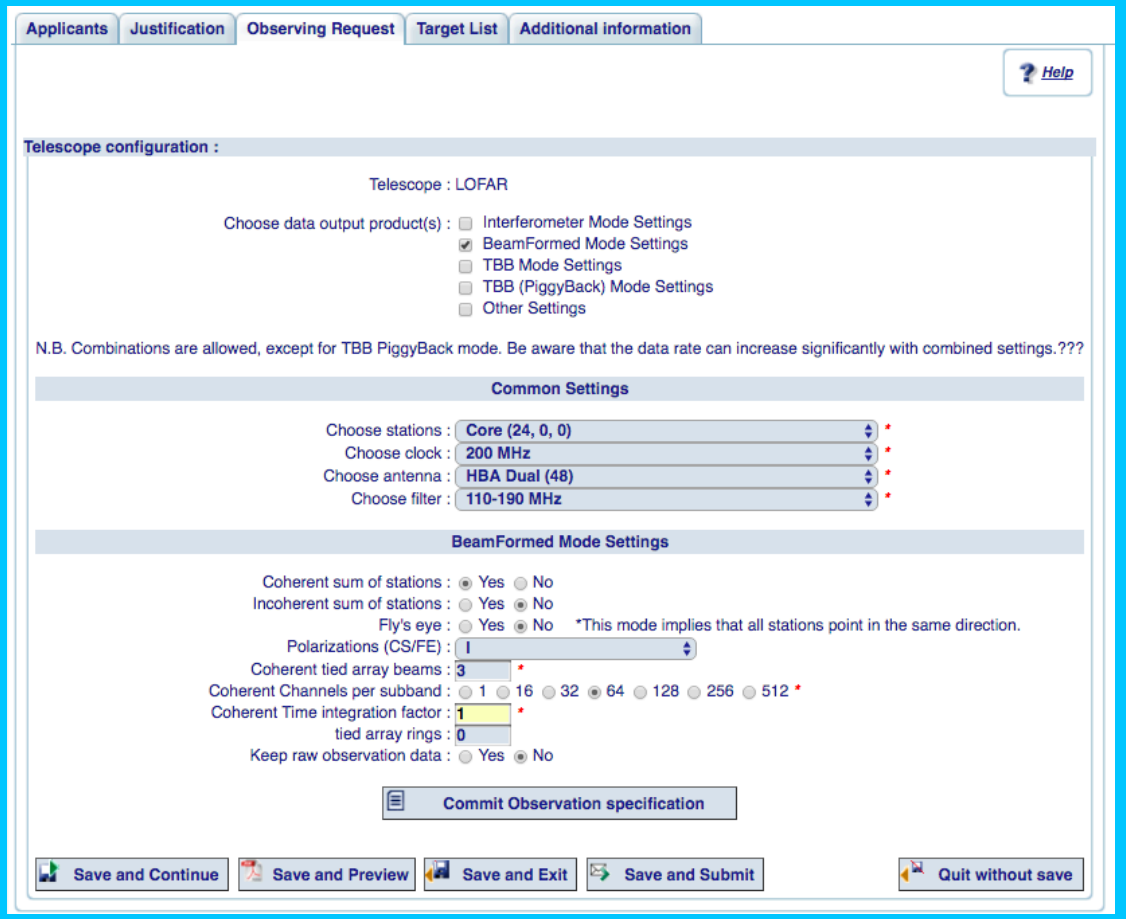


Next to each station configuration, you will see the number of Core, Remote and International stations included (all of each subarray).

Beamformed setup

More changes for the user will be found in the beamformed setup.

Several textual changes, to make the section more easily comprehensible.

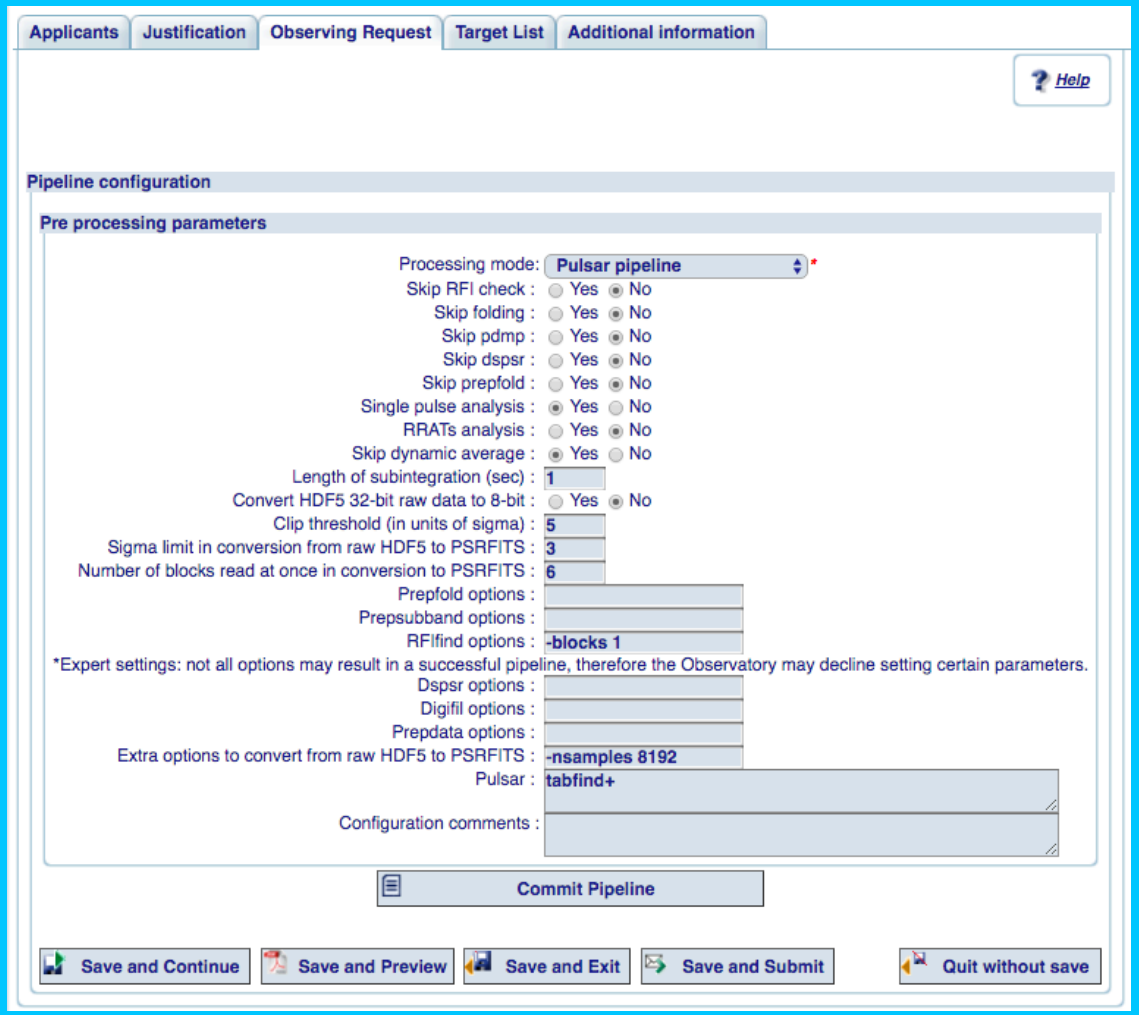


Beamformed setup

Users can now fully specify the parameters needed to run the pulsar pipeline.

None of the fields is mandatory.

An explanation for each parameter will be given in the new "NorthStar How TO".

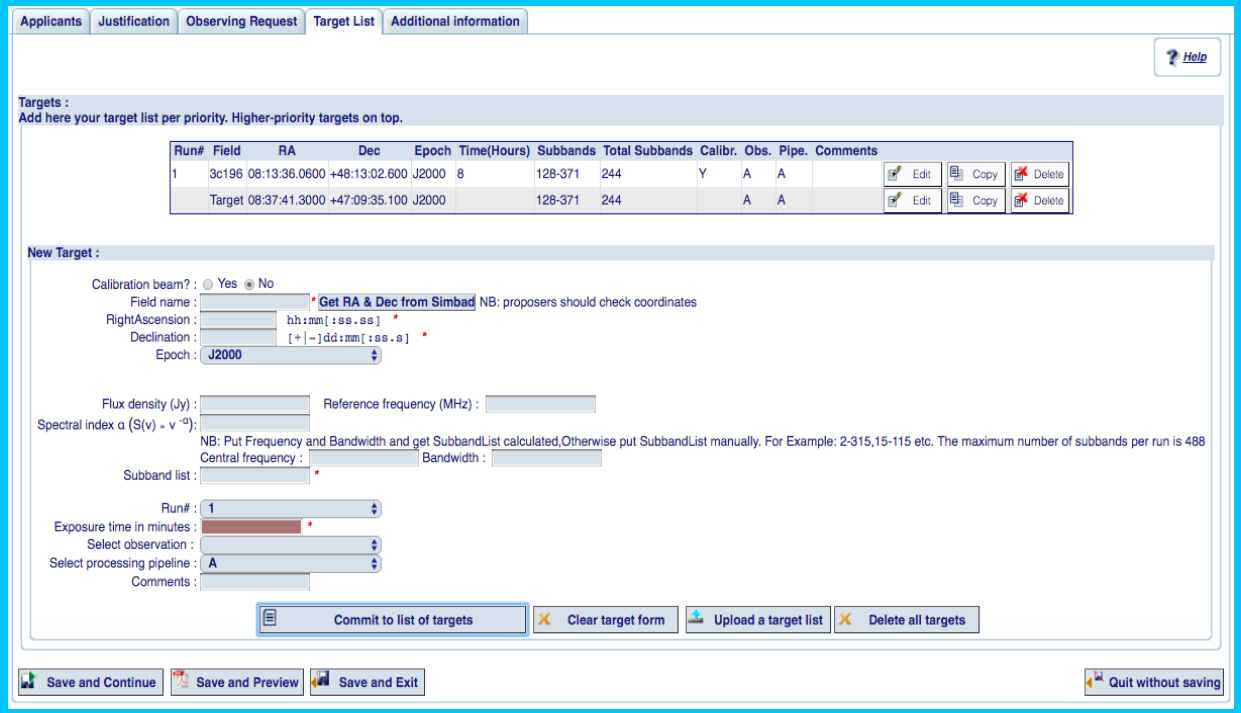


The Target tab

A target can now be copied without losing information on the previous target entry.

The issue with long lists of targets generating errors turned out to be a problem with the amount of time requested. This has been fixed.

Setting up TABs for BF observations remains problematic, since each target is charged the corresponding amount of subbands in NorthStar.

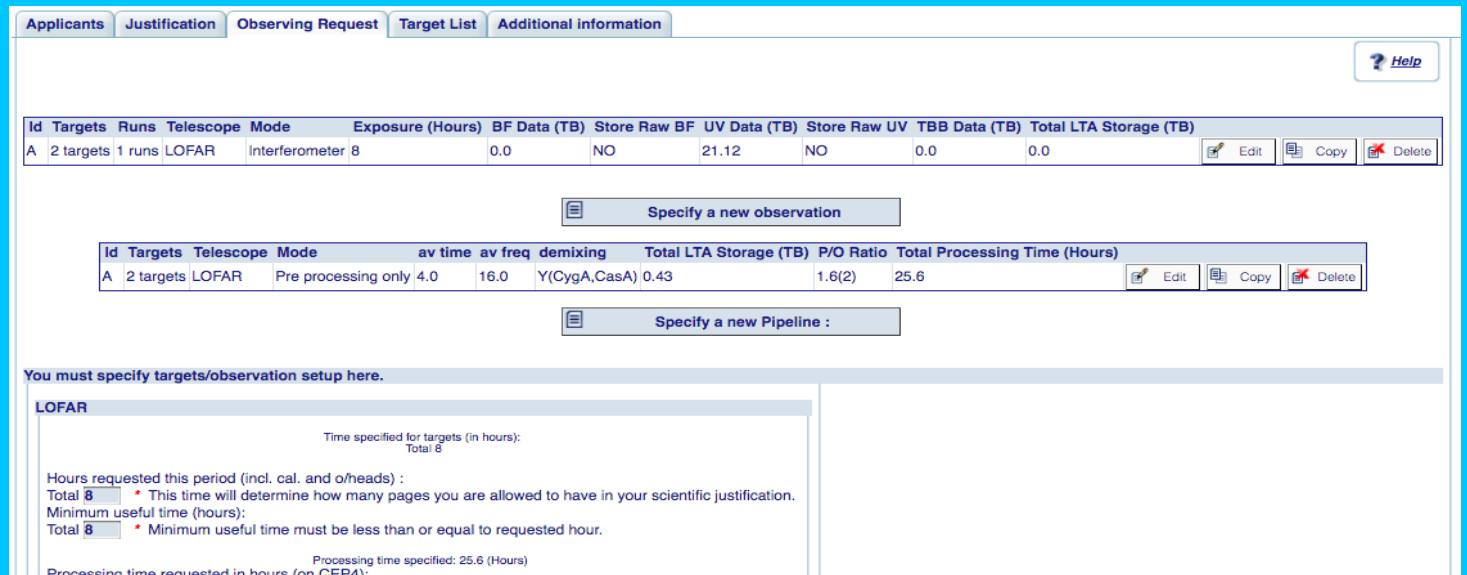


Data size and processing time

This is the part that took most of the time to be fixed.

For interferometric data, the size is reported for both raw and processed data. The values will NOT match with those from the web calculator. The reason is a correction of the final MS size accounted for in Northstar, but not in the web tool. Use the value given by Northstar.

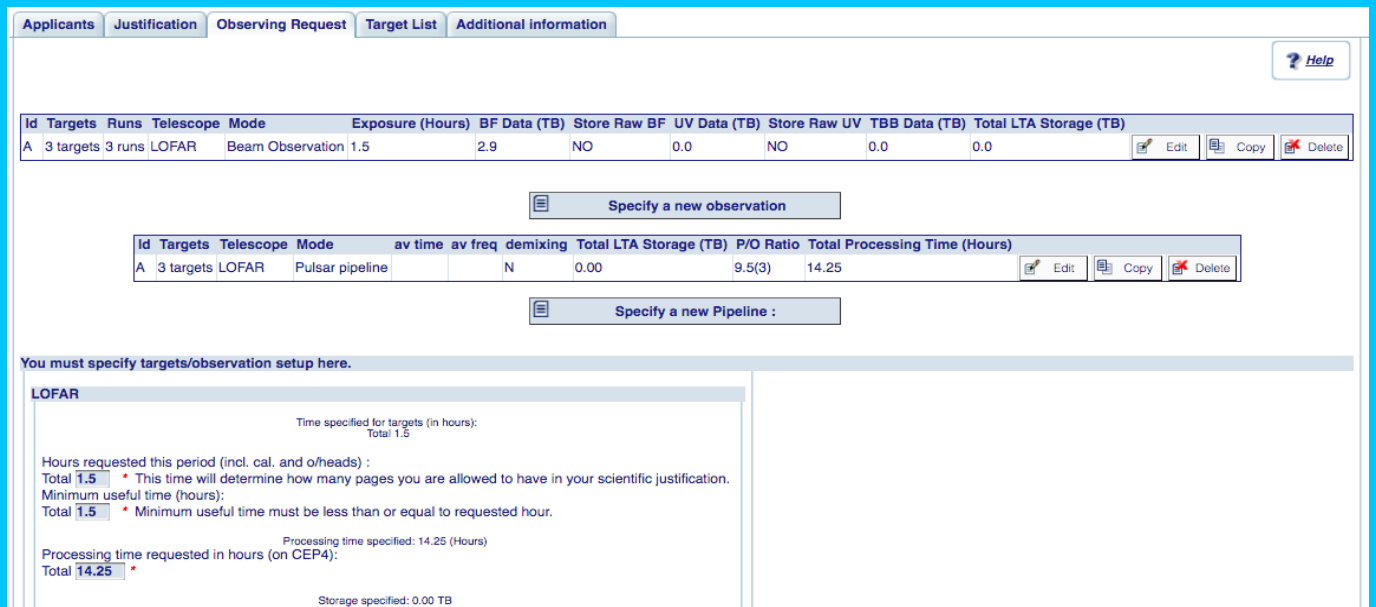
The processing time also includes correction factors for small (<160) and large (>360) amounts of subbands.



Data size and processing time

For BF observations, calculating automatically the data size and processing time may be impossible, since the target setup may not allow you to fully specify your observation.

The guide line here was to provide the user with what is offered by the online size and time calculator. The size of the output of the pipeline is not given. The processing time depends on the number of TABs and cores set up by the pipeline.



Data size and processing time
(behind the scenes)

The P/O factors used to be hardcoded in Northstar.

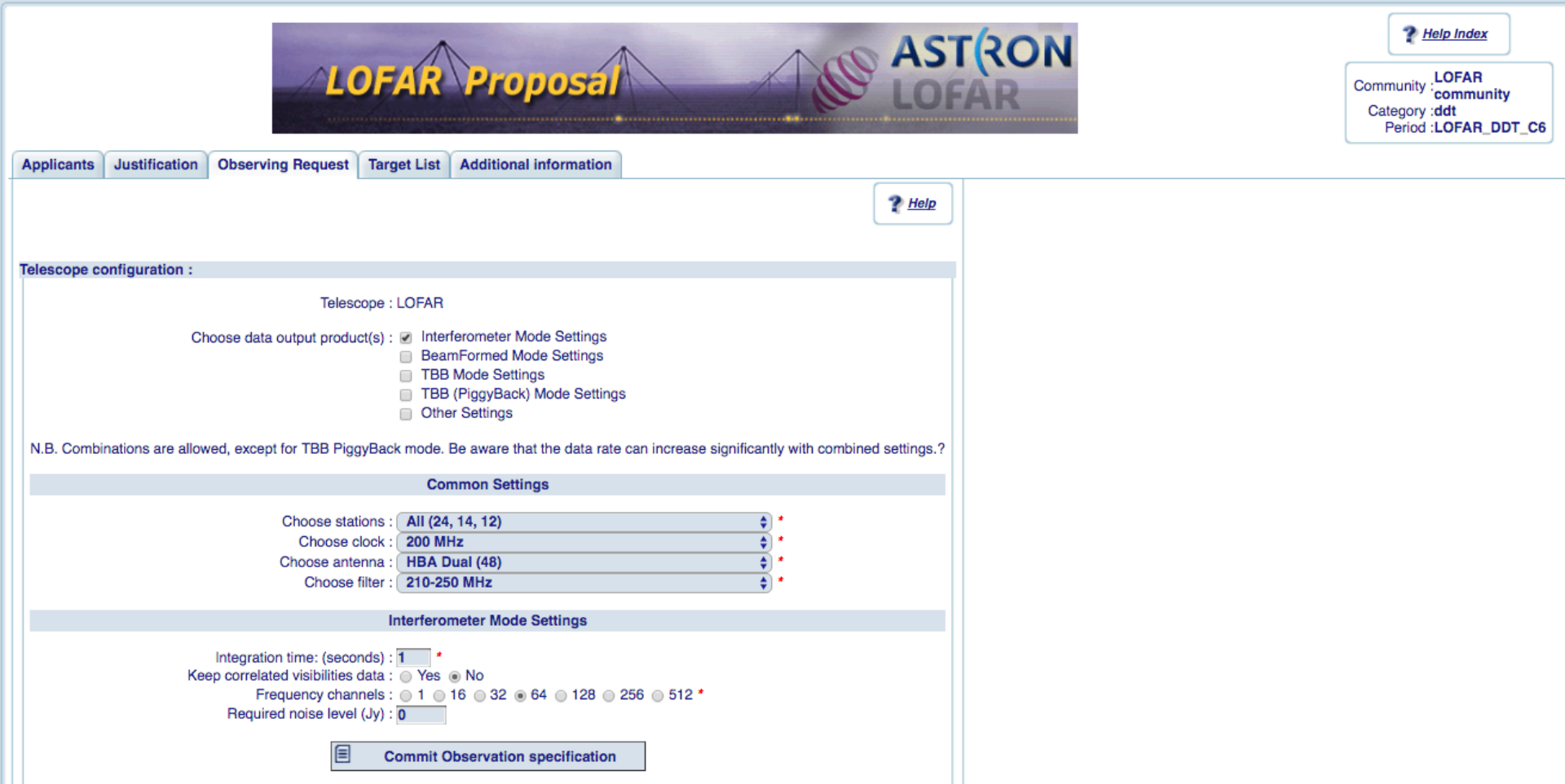
With CEP4 coming up and possibly new processing being offered in the future, a different approach was needed.

Now, P/O factors are specified in a separate option file allowing the RO to update them at any time and also add new values for new pipelines.

```
<PO processingMode="Pre processing only, Calibration, Calibration + imaging" type="HBA" numberofDemixingSources="1" totalTargetSubbandMin="">
    <Ratio>1.5</Ratio>
</PO>
<PO processingMode="Pre processing only, Calibration, Calibration + imaging" type="HBA" numberofDemixingSources="2" totalTargetSubbandMin="">
    <Ratio>4.5</Ratio>
</PO>
```

DDT proposals

DDT proposals have now the same layout as regular ones. You can fully specify your observing request, targets, etc.



Good habits

- Save often your work
- Always “Save and Exit” before logging out of NorthStar
- View your proposal in pdf format before submitting (you don’t want to upset the reviewers trying to figure out what your out-of-margin caption/figure means)
- Have in your justification a short paragraph at the end, where you describe your observing strategy and summarize your requests (observing time, archive storage, and processing time).

Finally, our overall request is for a total of 84 hours of observation (including calibrations and overheads), spread over 10 sessions of 8.4 hours each, to be scheduled during the cycle so that each session is centred around the transit of the respective target. Each session will be made up of a calibrator run of 10 minutes, a main run on target of 8 hours, and a second calibrator run of 10 minutes. Based on what calculated by Northstar and verified by us, we request 84 hours of pre-processing time on CEP4 and 167 TB of storage space in the LTA. We also request a CEP3 reservation, which we will use for smart demixing.

- Include time for your calibrators and overheads in your time request
- If you ask for nighttime observations, check that your targets are observable at night during the cycle!