

High Resolution Surveying with LOFAR

Lorentz Center Workshop, March 2018

Organizers:

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Long Baseline Working Group

Neal Jackson, Leah Morabito, Marco Iacobelli, Alexander Drabent, Sean Mooney, Carole Roskowinski, Alexander Drabent, Alexander Kappes, Atvars Nikolajevs, Kaspars Prusis, Stephen Bourke, Tim Shimwell, Rachael Ainsworth, and others.

19 - 23 March 2018

Thanks to



ERC Advanced Grant: A new window on
the Universe (PI Röttgering)

ASTRON

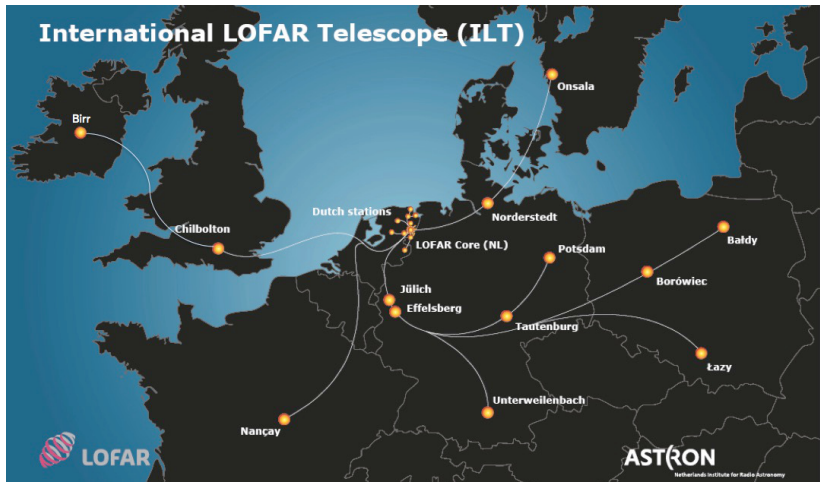
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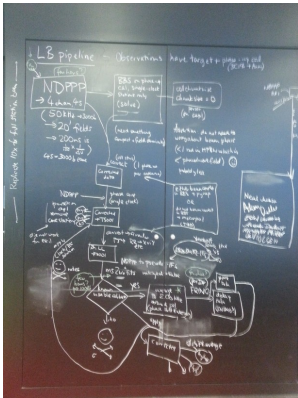
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LOFAR Long Baselines



Can achieve sub-arcsecond imaging ($\sim 0.25''$ at 150 MHz) by using entire ILT!

The Long Baseline Pipeline (LBP)



- Jan 2013: Lorentz Center workshop
- Strategies developed using VLBI techniques
- Observations of individual targets
- Long Baseline Working Group (LBWG) has worked on automating pipeline
- Current pipeline uses generic pipeline format + python scripts

The Long Baseline Pipeline (LBP) is intended to be used for any type of HBA observation with full LOFAR-ILT

Goals for the week

1. Introduce long baseline pipeline to wider community
2. Test current pipeline and update documentation
3. Discuss pathway forward
 - Individual PI-led projects
 - Large-scale post-processing of LoTSS

Measures of success: updated documentation; concrete answers to current issues (and any raised during the week); game plan for accomplishing work

Programme for the week

- **Monday:** Introductory talks, organisation of working groups
- **Tuesday/Wednesday:** working time + 1-2 talks per day
- **Thursday:** working time, feedback on pipeline, introduction of surveys processing (*workshop dinner*)
- **Friday:** discussions on surveys processing, final wrap-up

9:00 on Wednesday: Etienne Bonnassieux, *High resolution imaging of EGS*

Major Questions

- How faint can we go?
- What fraction of the field of view can we image?
- What is our target resolution for LoTSS-VLBI?

We are maintaining a list of detailed questions, please let either Leah or Neal know if anything should be added!

This week is meant to be a discussion, so please interact with LBWG and each other as much as possible!

How to identify your targets for questions ...

