ASTRON

Netherlands Institute for Radio Astronomy

Proposal Support for LOFAR Observations

Technical Status Meeting
Antonis Polatidis

Commissioning effort: Summer of 2009

ASTRON

- Gradual expansion of resources, both hardware and software.
    - Operational & control tools are in delivery/commissioning
    - Simultaneous debugging of many components
- Observing requests by commissioning teams
    - both in house and from KSP groups
    - Moderate in time and hardware, focused on solving small issues.
- "LOFAR Observation Tracker"

    (http://mom.astron.nl:8082/lofar-observations/index)

    - a web tool developed by M. Brentjens to:
        - Co-ordinate the proposal submission
        - Track all projects till completion.
    - Scheduling priorities set by observatory & development team
        - Based on rollout, checkout, & technical commissioning needs
        - Changes on short timescale ; No guarantees for time ; No formal data archive yet; temporary storage/access routes
    - Access/Password: email brentjens@astron.nl

# Radio Observatory Support of the Proposal Submission process

AST(RON

- Part of the mandate of the ASTRON's Science Support Group is to help users write a successful proposal by:
  - Providing up-to-date detailed information of the instrument's status.
  - Present the (current) capabilities of LOFAR in way so that users can realize the actual scientific potential of the array.
  - Assess users' needs and provide advice to maximize the scientific output of the observations.

- Must emphasize the uniqueness of the instrument as well as the additional requirements for a proposal to be successful (data size, computing power etc).

- Build the tools for Proposal Submission and Review, that will be used for the operational life of LOFAR

Proposal Submission with the Announcement of Opportunity

ASTRON

- Proposals will be submitted through a Web-based proposal tool "NorthStar for LOFAR".

  - Developed by ASTRON and based in similar tools for the WSRT, the EVN, INT, JCMT, Effelsberg, OPTICON etc.

  - First version is ready and is being tested.

- Proposal Review Committee will assess the scientific merit as well as the technical feasibility

  - "NorthStar for LOFAR" will incorporate the refereeing process.

- Project Tracking will be done through a system similar to the WSRT's MOM.

NorthStar for LOFAR - Developed
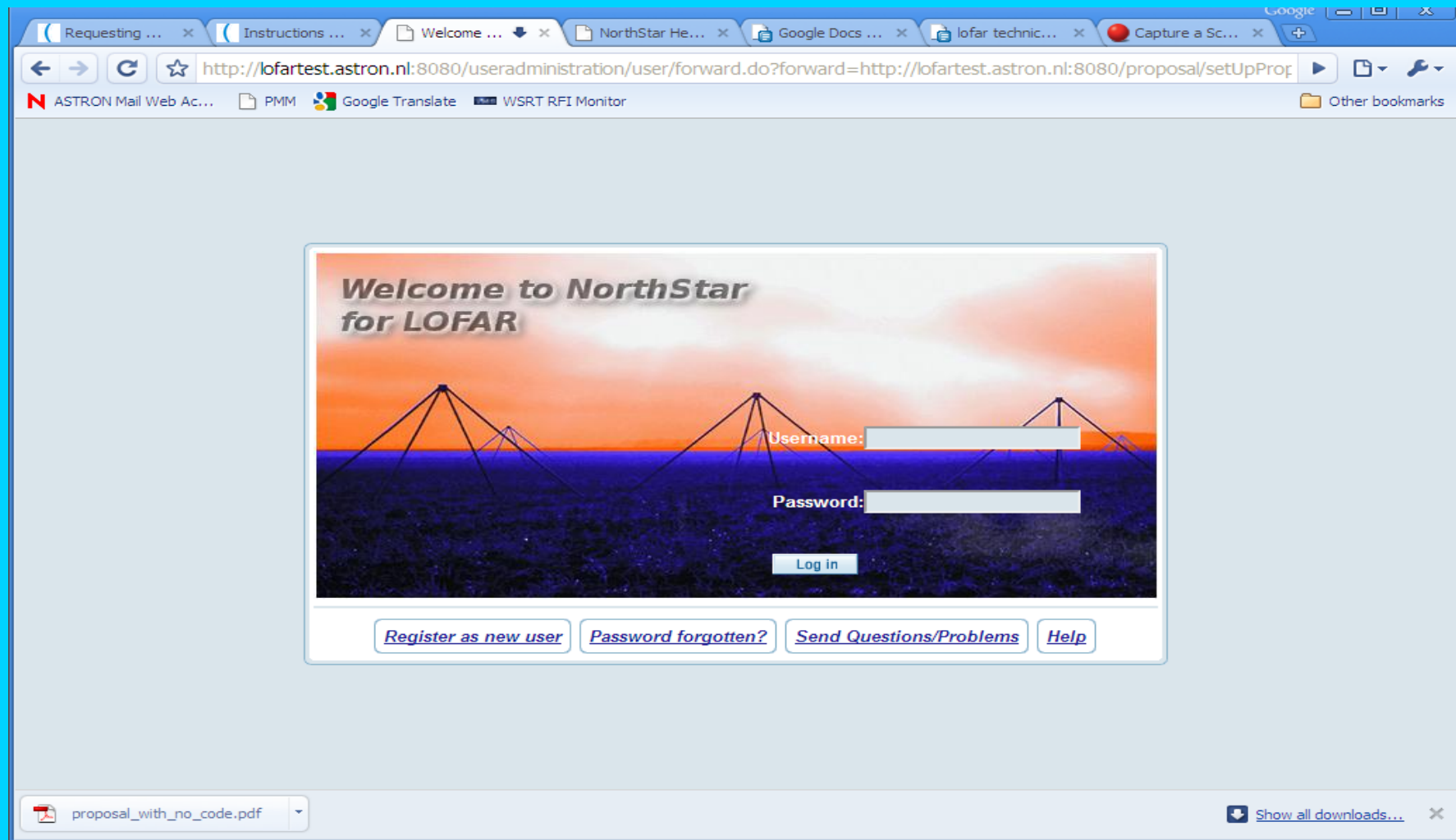
Information on LOFAR at the Radio Observatory Web Pages

(http://www.astron.nl/radio-observatory/astronomers/lofar-astronomers)

AST(RON

- ASTRON's re-organised web pages under the heading "*Radio Observatory*" contain now information on the astronomical use of LOFAR as well as that of the WSRT.

- Web pages are in a state of flow as they are revised frequently.

- "*Requesting Observations and Data*" on procedures to apply for observations or data.

- "*Technical Information*" contains a description of the instrument characteristics and capabilities with respect to planning observations.

- "*Current Status*" will give updates on station roll-out and acceptance (not available yet).

"*Technical Information*" Content

ASTRON

Description of the signal path, the observing modes and processing options:

- Major Observing modes
- Signal Path
- Antennae Description
- Station Description and Configuration
- Array Configuration
- Imaging Capability and Sensitivity
- Frequency Setup: Station Clocks and RCU Filters
- Sub-band Selection
- Station Correlator
- Transient Buffer Boards
- Central processing

Planned Content

AST(RON

- Description of example setups/observing modes.

- Examples of dataset size for standard observations.

- Information on data processing options (pipelines – hardware)

- Information on data access – archival options.

- Information on accessing data as alternative to observations (future).

Helper Applications

AST(RON

- Web Based Tools

  - Data Volume Calculator (first version online)

    Gives a rough size estimate on the amount of storage space needed for an observation depending on the observing mode

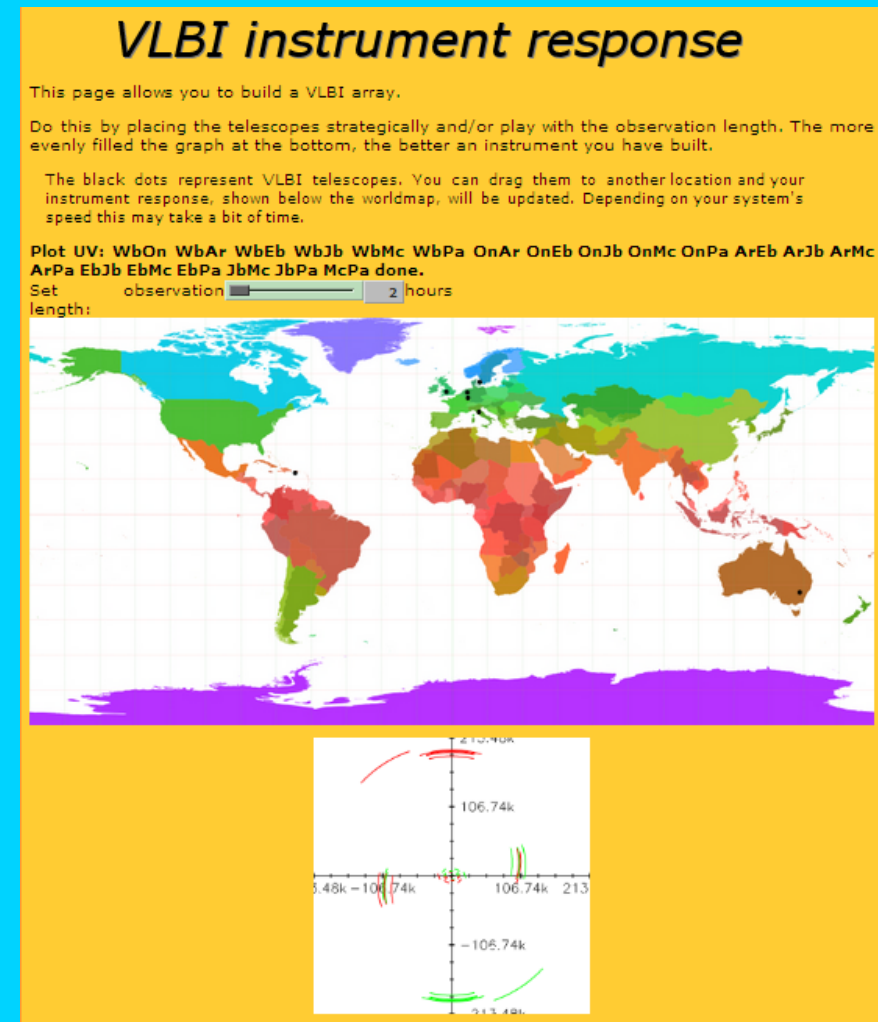 - Sensitivity and Imaging Capabilities Calculator

    Based on R. Nijboer's presentation (LOFAR-ASTRON-MEM-251)

  - Simple UV-coverage simulator

    loosely based on the "Virtual Radio Interferometer" (see http://www.express-eu.org/iya2009/diy-js.html)

In-Browser UV-coverage application

- Developed by D. Small (JIVE) for use in the IYA2009 "24 hours with e-VLBI" demo (Jan 2009)

- Based on the "Virtual Radio Interferometer" originally written mainly by D. McKay

- Will be adapted for LOFAR stations (selectable on the map)

- D. McKay starts working for LOFAR station in Chilbolton on June 2009.

VLBI instrument response

This page allows you to build a VLBI array.

Do this by placing the telescopes strategically and/or play with the observation length. The more evenly filled the graph at the bottom, the better an instrument you have built.

The black dots represent VLBI telescopes. You can drag them to another location and your instrument response, shown below the worldmap, will be updated. Depending on your system's speed this may take a bit of time.

Plot UV: WbOn WbAr WbEb WbJb WbMc WbPa OnAr OnEb OnJb OnMc OnPa ArEb ArJb ArMc ArPa EbJb EbMc EbPa JbMc JbPa McPa done.

Set observation length: 2 hours

Contact Points for proposal preparation

ASTRON

We aim to provide help from the early stages of proposal writing.

We encourage users to communicate with the Radio Observatory to discuss their proposal, especially the technical aspects.

We welcome any comments and suggestion for the content in the web pages.

Email: sciencesupport@astron.nl

            lofarproposal@astron.nl