

DE609: Norderstedt

Report of the Bielefeld-Hamburg LOFAR station

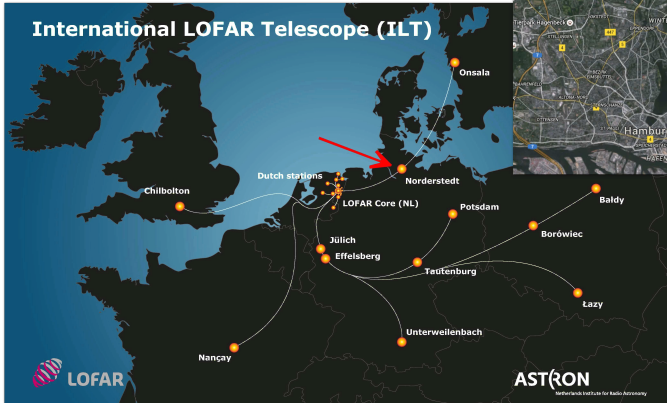
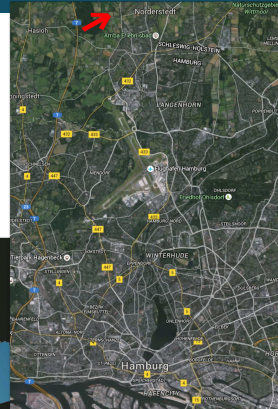


Jörn Künsemöller

7th of April, 2016

DE609?

- ▶ Construction: Late 2014
- ▶ First Light: 20th of Jan, 2015
- ▶ In Production: Since 4th of Feb, 2015

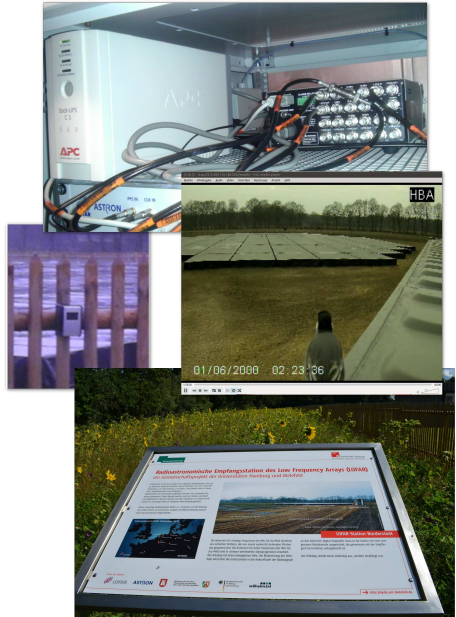


Inauguration: 9th of Sept, 2015



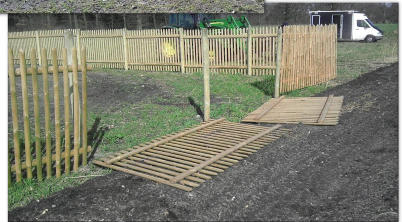
Station Upgrades

- ▶ UPS for the clock
- ▶ 2 web cameras
- ▶ Outreach displays
- ▶ Geocache



Maintenance / Issues

- ▶ Biggest problem: RFI
 - ▶ DAB radio
 - ▶ Electric fences
 - ▶ Overland power lines
- ▶ Station damages / defects
 - ▶ Minor storm damages (fallen LBAs, fence)
 - ▶ Broken rubidium clock
 - ▶ Clock connection was missing T-connector
 - ▶ Failed power supply module
 - ▶ LBA cable damage
 - ▶ A few fiber downtimes

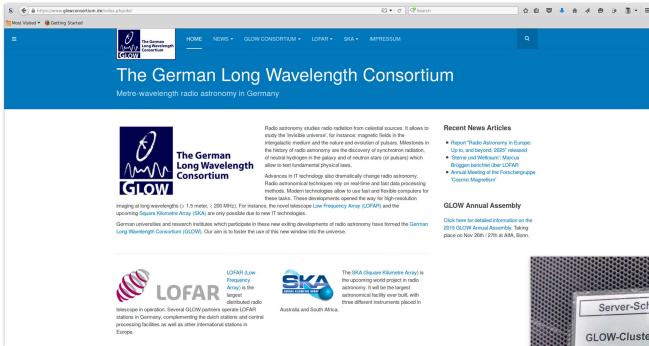


Outlook / Plans

- ▶ Weights on LBA groundplanes
- ▶ 'Julen' against mice
- ▶ Environment monitoring
- ▶ BSc thesis on 'DAB shield'
- ▶ Hardware notch filters for DAB frequencies



Slightly Off-Topic: GLOW Cluster & Website



The screenshot shows the homepage of the German Long Wavelength Consortium (GLOW). The header is blue with the GLOW logo and navigation links: HOME, NEWS, GLOW CONSORTIUM, LOFAR, SKA, IMPRESSUM. The main heading is "The German Long Wavelength Consortium" with the subtitle "Metre-wavelength radio astronomy in Germany".

The German Long Wavelength Consortium

Radio astronomy studies radio radiation from celestial sources. It allows to study the "invisible universe", for instance: magnetic fields in the intergalactic medium and the nature and evolution of pulsars. Milestones in the history of radio astronomy are the discovery of synchrotron radiation, of neutral hydrogen in the galaxy and of neutron stars (or pulsars) which allow to test fundamental physical laws.

Advances in IT technology also dramatically change radio astronomy. Radio astronomical techniques rely on real-time and fast data processing methods. Modern technologies allow to use fast and flexible computers for these tasks. These developments opened the way for high-resolution imaging of long wavelengths (> 1.0 meter, < 300 MHz). For instance, the novel telescope Low Frequency Array (LOFAR) and the upcoming Square Kilometre Array (SKA) are only possible due to new IT technologies.

German universities and research institutes which participate in these new exciting developments of radio astronomy have formed the German Long Wavelength Consortium (GLOW). Our aim is to foster the use of this new window into the universe.

Recent News Articles

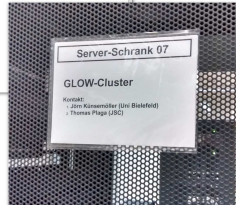
- Report "Radio Astronomy in Europe: Up to, and beyond 2020" released
- "Sterne und Weltraum": Marcus Brüggen berichtet über LOFAR
- Annual Meeting of the Forschungsgruppe "Cosmos Magnetum"

GLOW Annual Assembly

[Click here for detailed information on the 2015 GLOW Annual Assembly](#), taking place on Nov 26th / 27th at ABA, Bonn.

LOFAR (Low Frequency Array) is the largest identified radio telescope in operation. Several GLOW partners operate LOFAR stations in Germany, complementing the dutch stations and central processing facilities as well as other international stations in Europe.

SKA (Square Kilometre Array) is the upcoming world project in radio astronomy. It will be the largest astronomical facility ever built, with three different instruments placed in Australia and South Africa.



That's all. Thanks!