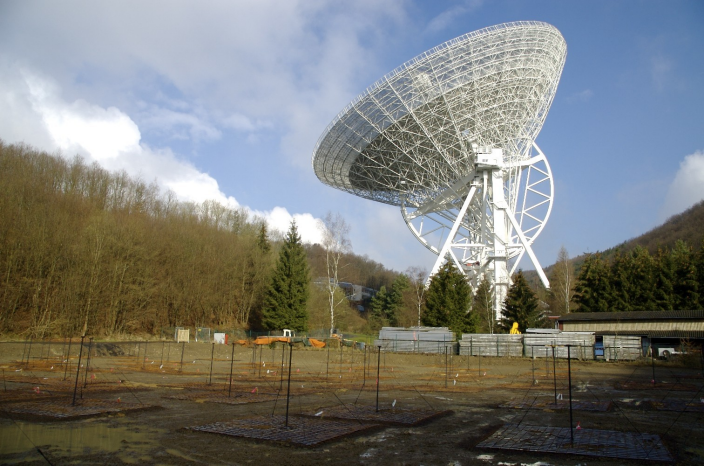
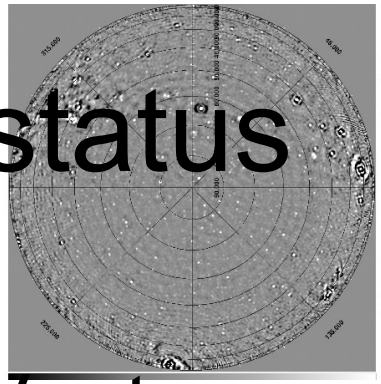
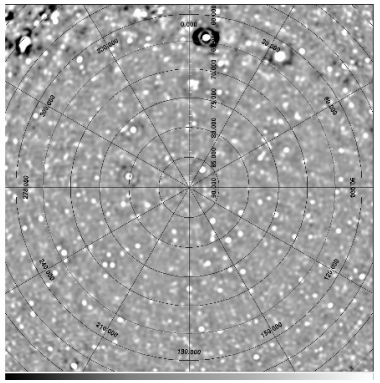


LOFAR

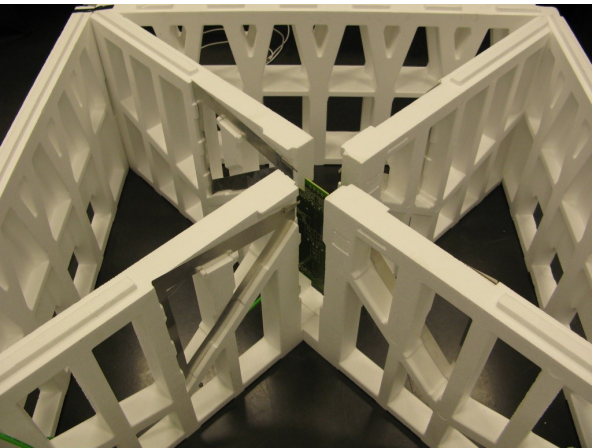


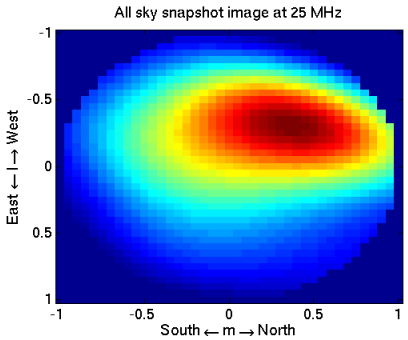


LOFAR status

Corina Vogt

LOFAR/ASTRON





What happened since last GLOW meeting

- Summer 2007: LOFAR has undergone a re-scope
  - Min 36 stations (18 core + 18 remote)
  - Reducing number of antenna/station
  - 3 different types of stations: core, remote and international
  - But 100 km baseline are kept

CS1 Status

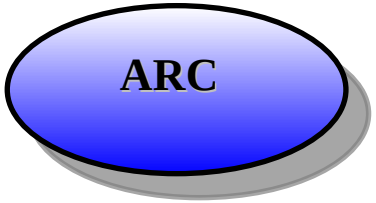
Hanno Holties

LOFAR Radio Observatory

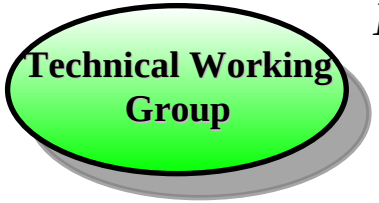
CS1 Meeting, January 16, 2008

Boards changes

Development plans and priorities
Personnel management
Interface to funding agencies



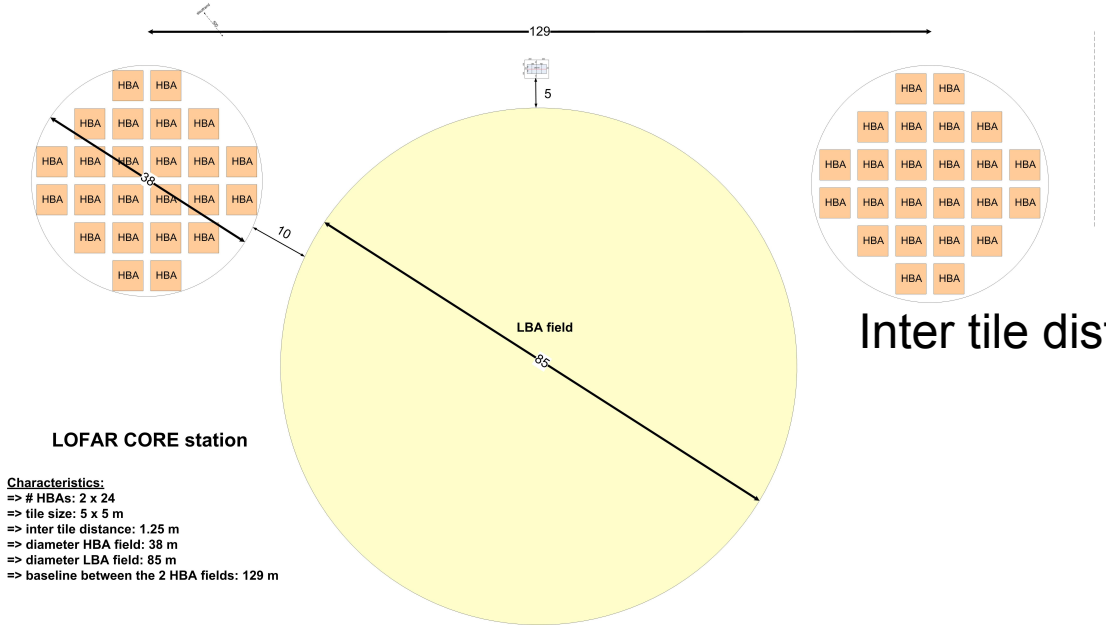
Political issues
Observing policies
Partner negotiations



Detailed technical assessments
Expert calibration advice
Trade studies

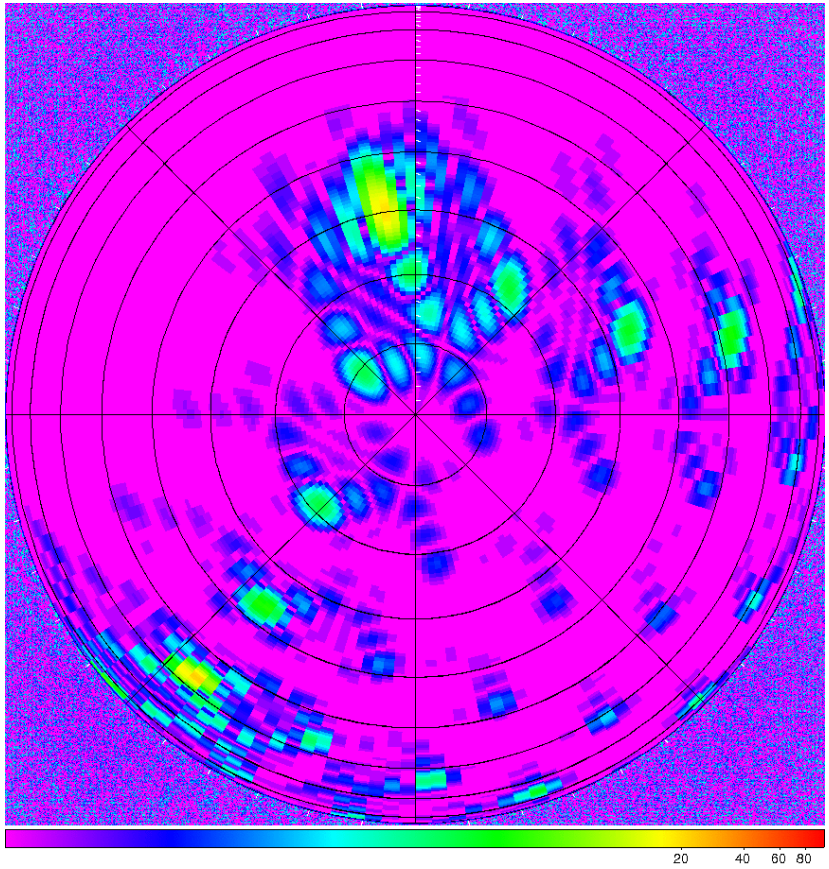
LOFAR core

- Core area will be a nature reserve
- 96 LBA antennas (48 observing at a time) & 2 x 24 HBA tiles



Inter tile distance: 0.6 m

Beam of HBA core station



LOFAR core

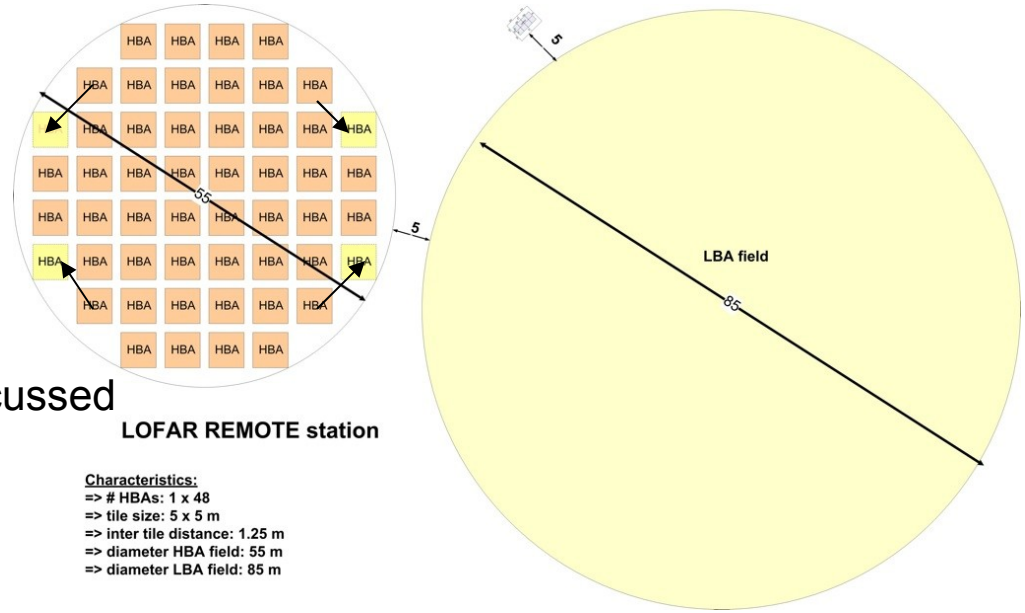
- Core area will be prepared in one go (due to bird season starting in July)
- 33 Station fields planned:
  - Central super core area ~ 6 stations
  - Best 18/24 stations
  - Available earth allows for preparing ~28 station fields

LOFAR core

- 3 Station orientation (use redundancy)
- Antenna field rotation (Side lobes)

LOFAR remote station

- 48 HBA tiles & 96 LBA (only 48 at a time used for observation)
- Station field rotation as well

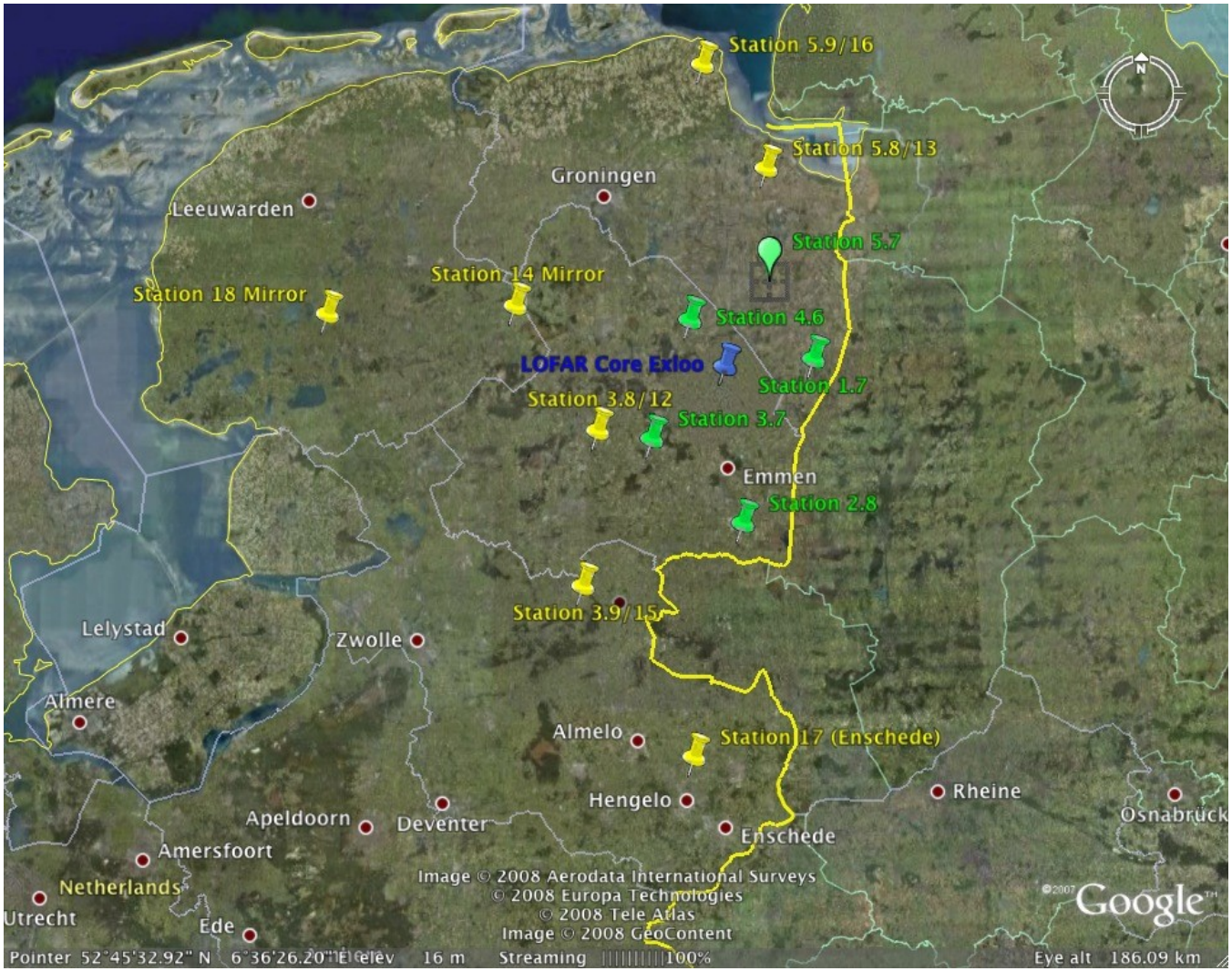


Final HBA distribution discussed

LOFAR NL array

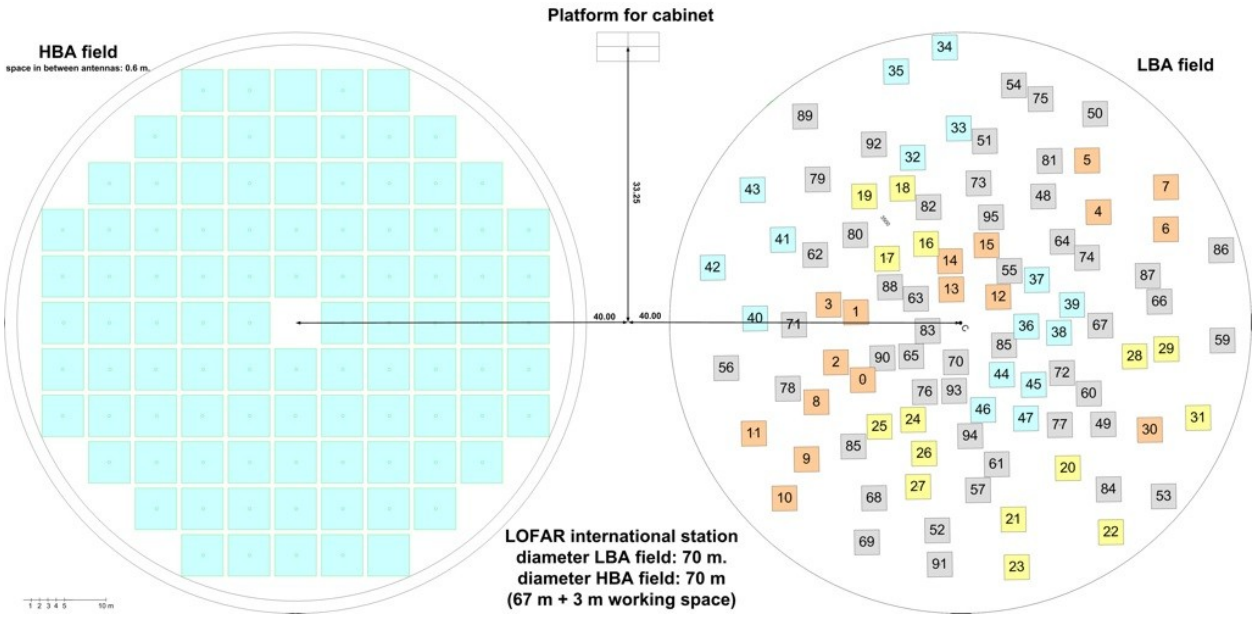
- Best 18 & 25 - concentrating on best 18 for the moment
- Employing 100km baselines
- Two proposals: Survey & EoR
  - Differ by 4 stations
- Connectivity of station

LOFAR remote NL

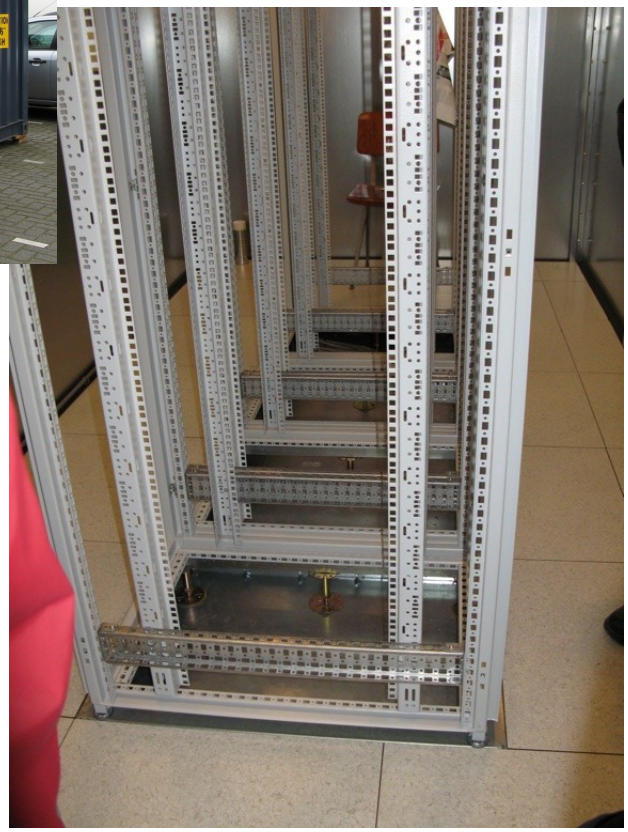


E-LOFAR

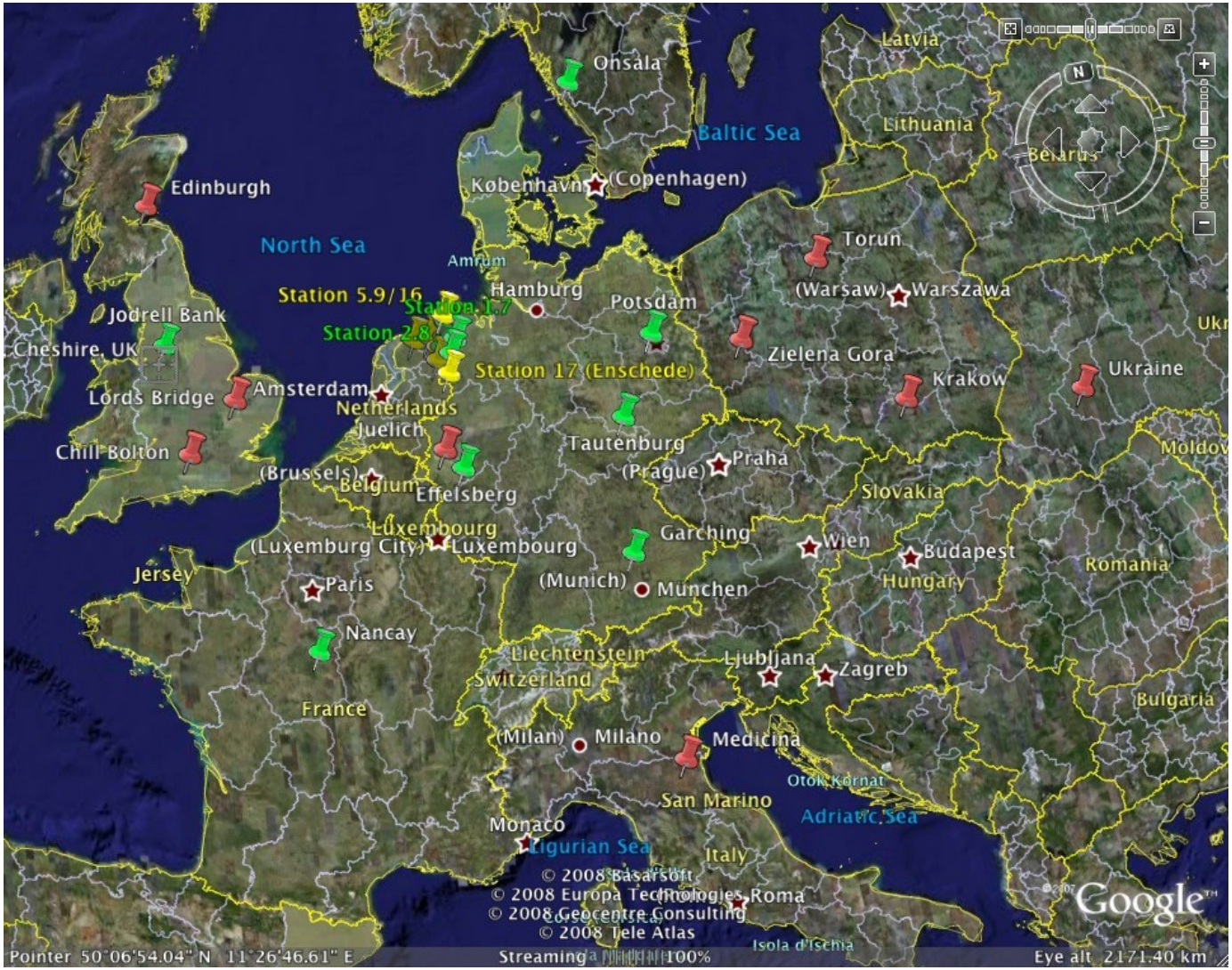
- 96 LBA and 96 HBA tiles
- Station rotation also applied



E-LOFAR station - container



E-LOFAR array



Procurement

- Most tenders are closed (except CEP)
  Contract negotiations are finalized
- Planning depends on number of roll-out teams:
  - 1 team ⇒ Finish first 20+ April 09
  - 2 teams ⇒ January 09

BlueGene/L Replacement

- BG/L service contract ends in mid-2010
- Negotiations underway with IBM for replacement
  Seeking no-cost replacement
- Trade studies underway for alternativesDecision expected in Q2

BG/L

BG/P

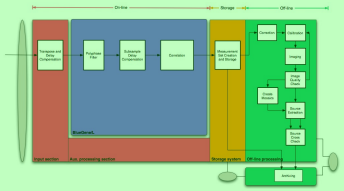
Porting issues
Improved I/O rates

Cluster

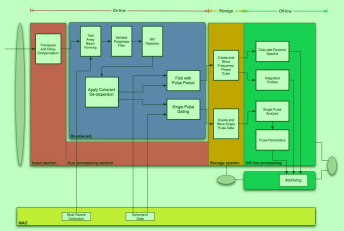
Porting issues
Simplified development

Science pipelines

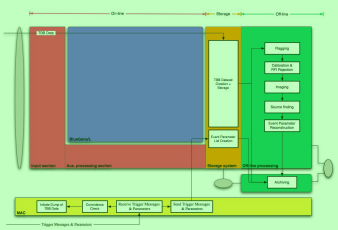
Standard Imaging



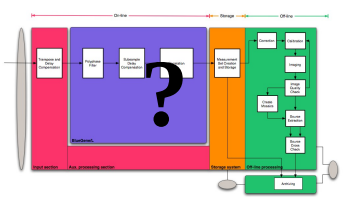
Known Pulsars



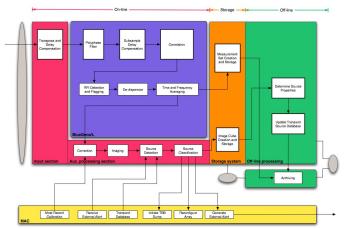
VHECR



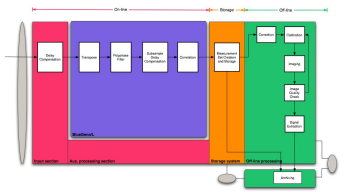
RM Synthesis



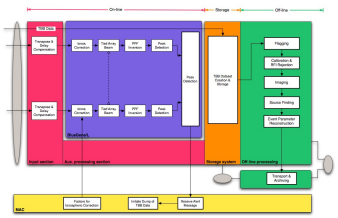
Transient Detection



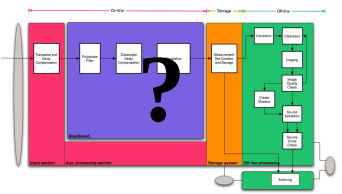
EoR



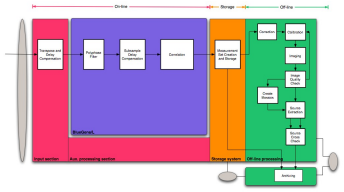
UHEP



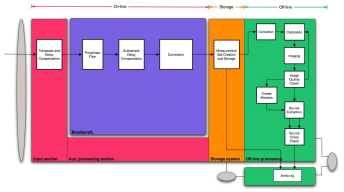
Solar Imaging



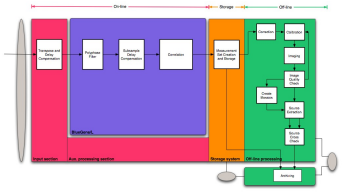
Pulsar Surveys



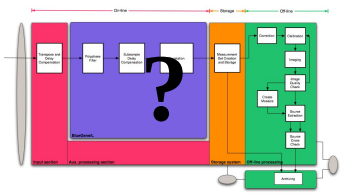
HECR



Thunder-Storm



Long-Baseline



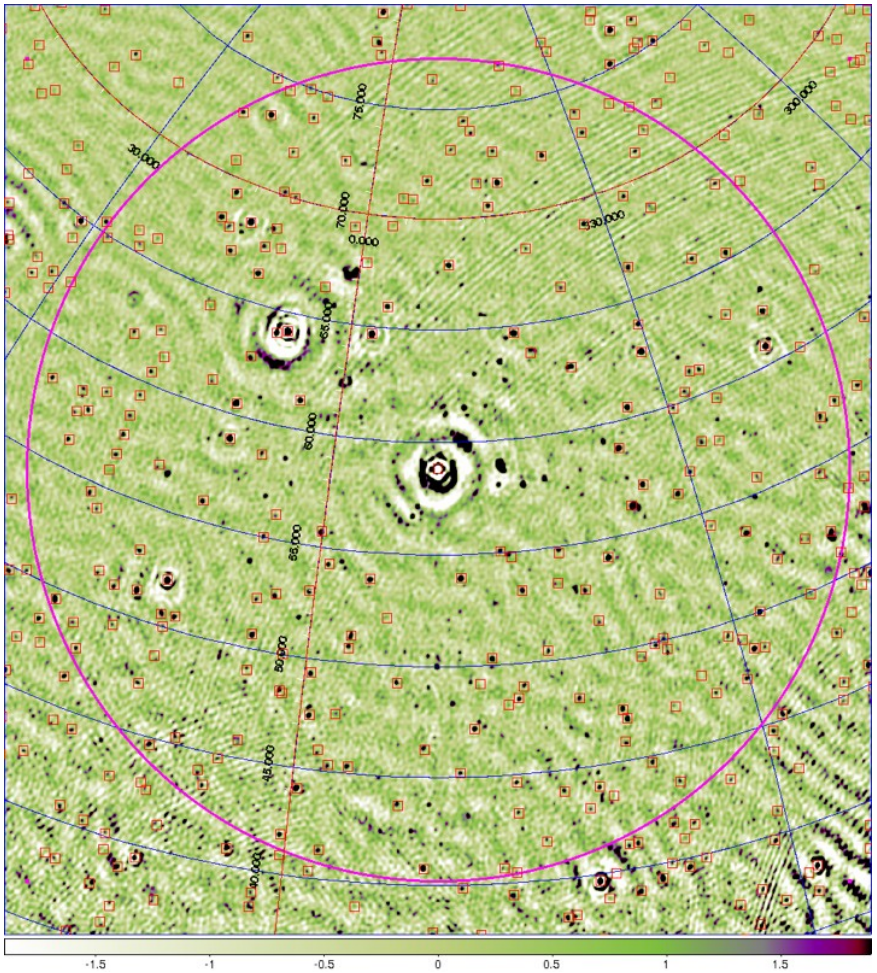
Standard Imaging

Recent progress

- Distributed BBS available
- Solution based flagging
- BBS ported to RuG cluster
- First version of CIMAGER Release of PyBDSM package

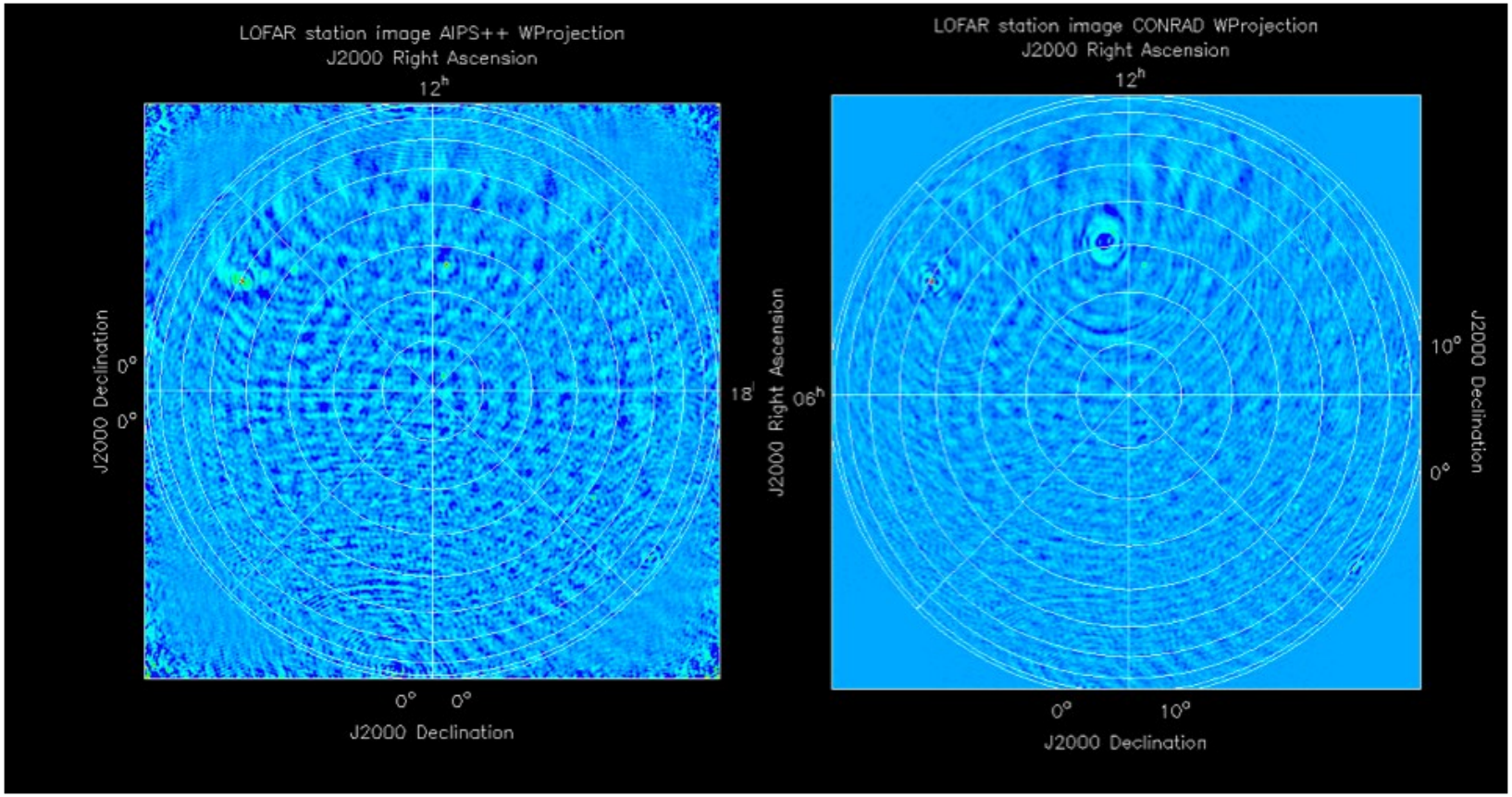
Next quarter

- BBS global solver complete
- GSM implementation design
- MIM implementation design
- Mosaicing designValidation of CIMAGER
- HDF5 data cube format



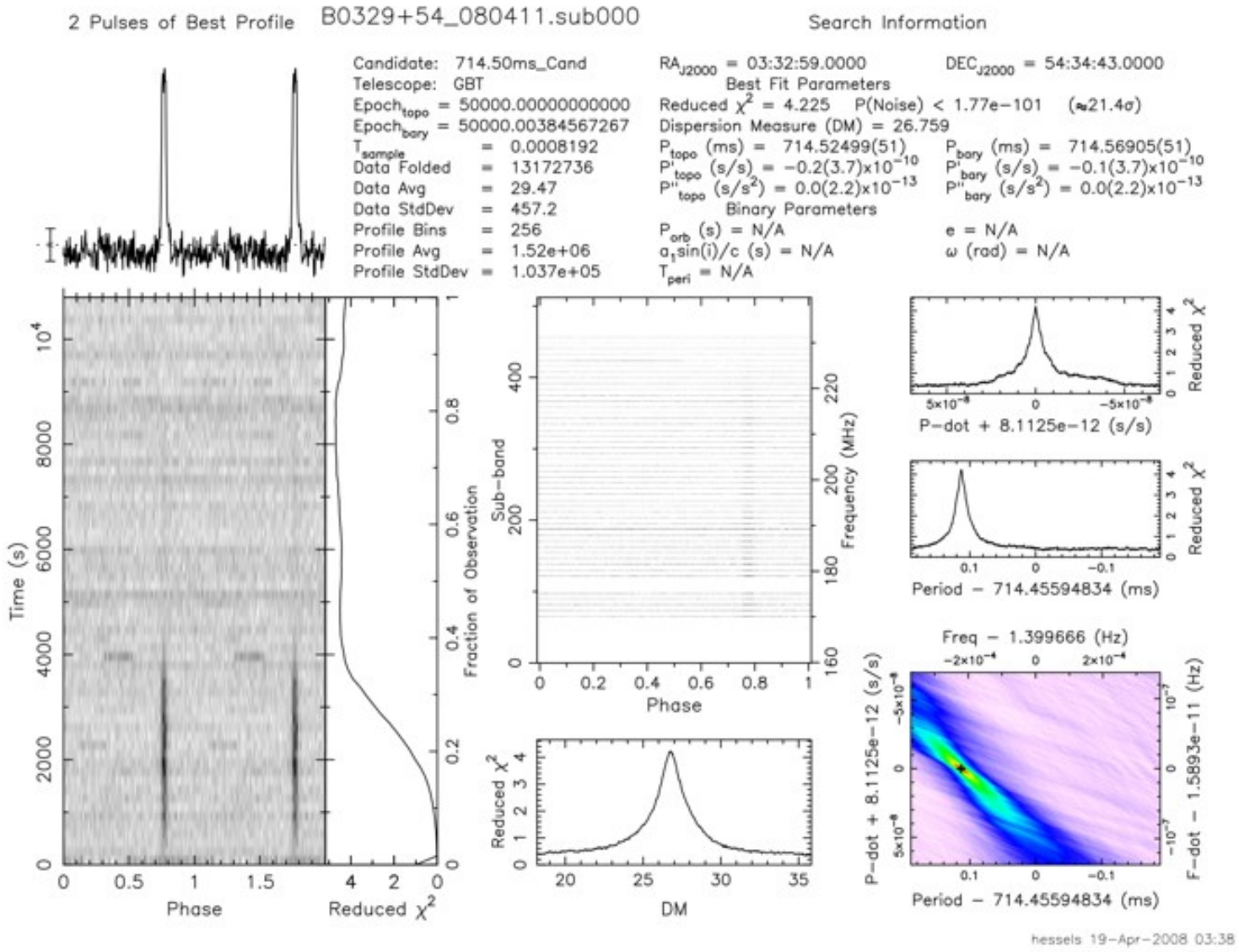
4 HBA tiles, 24 hrs, 36 subbands, 125-175 MHz

Standard Imaging



Comparison of AIPS++ imager and CIMAGER

Known Pulsar



There is still a lot to do