ASTRON

UNIVERSITY OF OXFORD

RadioNet

SEVENTH FRAMEWORK PROGRAMME

Hilado Work Package 3

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Contents

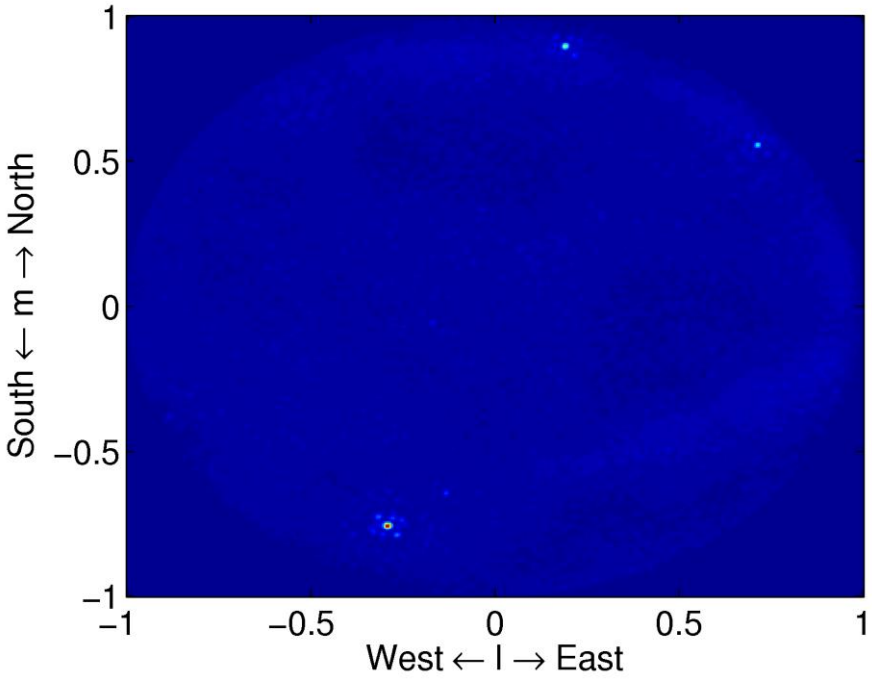
- Current work
- Questions and Issues
  - We want really a discussion not a presentation!

Current work

- StefCal (Statistically Efficient & Fast Calibration)
  - New, lightweight Algorithm
    - $O(N^2)$ operations
    - Small footprint: $O(N^2)$
    - Robust
    - Potentially highly parallel
  - Paper (the Stefans S & W) almost completed
- Current study
  - Parallelisation & porting to GPUs (Marzia Rivi)
  - API and packaging

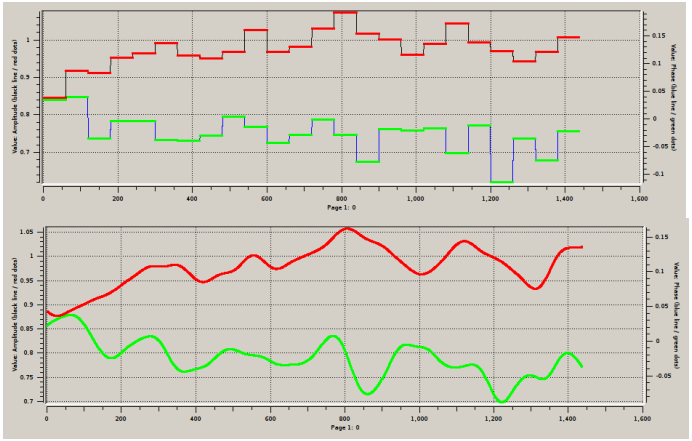
StefCal Deployment (1)

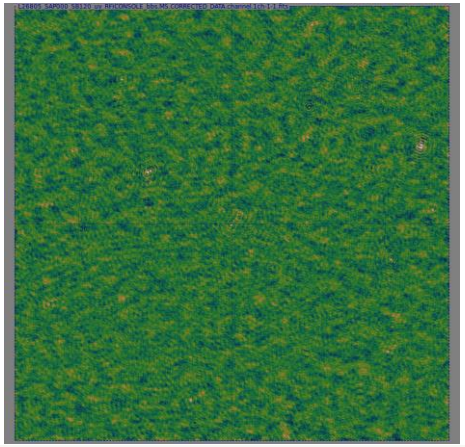
- Pipelines
  - LOFAR Station Calibration
  - BBS (?)
  - AARTFAAC Calibration
    - (which uses the Pelican framework from Oxford)



StefCal Deployment (2)

- MeqTrees
  - Experimental Implementation
  - Good results for
    - VLA
    - Westerbork
    - LOFAR (full polarisation)
  - Including
    - DDEs
    - Time-dependent gains





Questions & Issues

- StefCal
  - Inclusion in selfcal (cfr Oleg & Co.)
  - CASA?
  - BBS
  - Other calibration algorithms (usable within SAGECal ?)
  - ALMA?
- Relationship wity other Work Packages
- Algorithmic Optimiisation
  - A W Projections
  - CLEAN, SARA and other techniques
- Random thoughts: e.g. DFT vs FFT