Concluding remarks

Tutorial summary

- Opening data

- Routines to get metadata

- Perform RFI flagging

- Correct for station calibration

- Shift for geometrical delay

Build your own telescope!

- e.g. Do proper beamforming

  - Raw data => FFT => Sample shift => Apply phase => Add signals (=> FFT^{-1})

- Do imaging

  - Cross correlate antennas

  - Make an image

- Apply all appropriate delays (e.g. clock-offset)
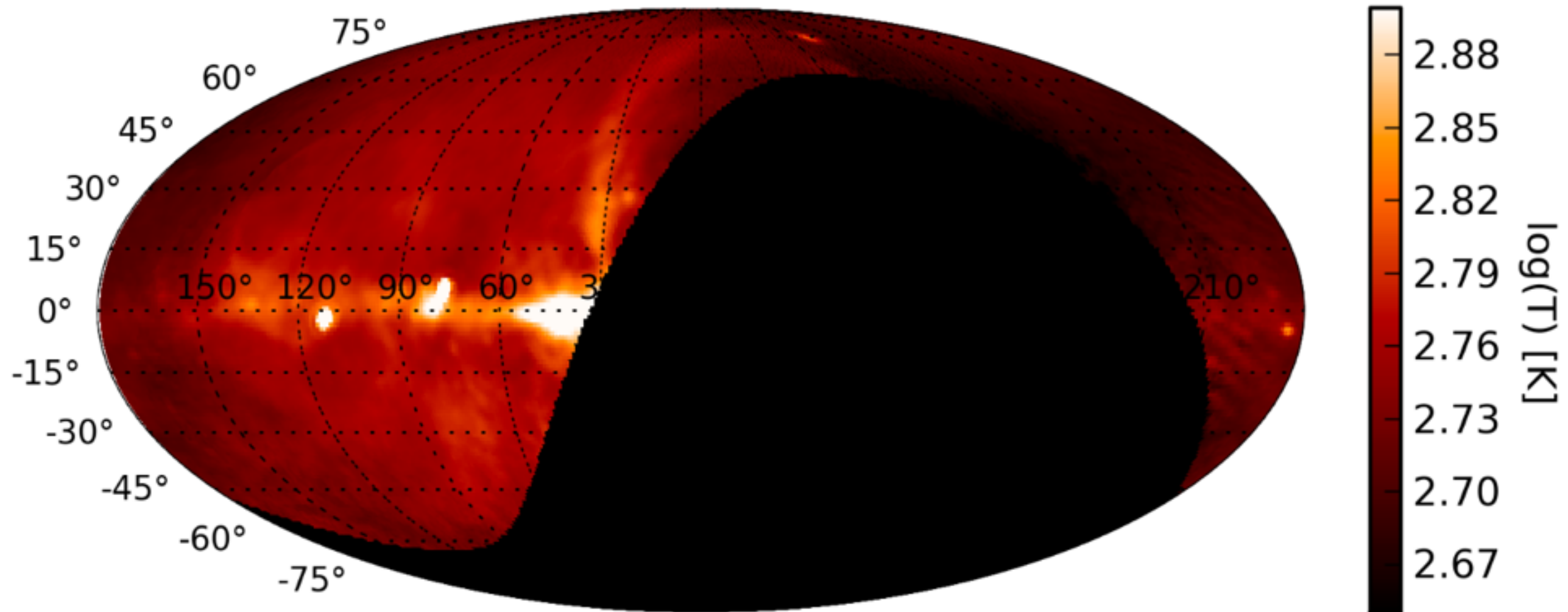
- Perform calibration

Further information

PyCRTools

- Software package for TBB analysis of cosmic rays

- Own data format (hArrays)

- https://www.astro.ru.nl/software/pycrtools/

- Data previously on public svn, now on protected git repository

  - Ask cosmic ray KSP for access (through SOS)

Studying large-scale structures and polarization of the Northern sky facilitating single-station data of the Low Frequency Array (LOFAR)
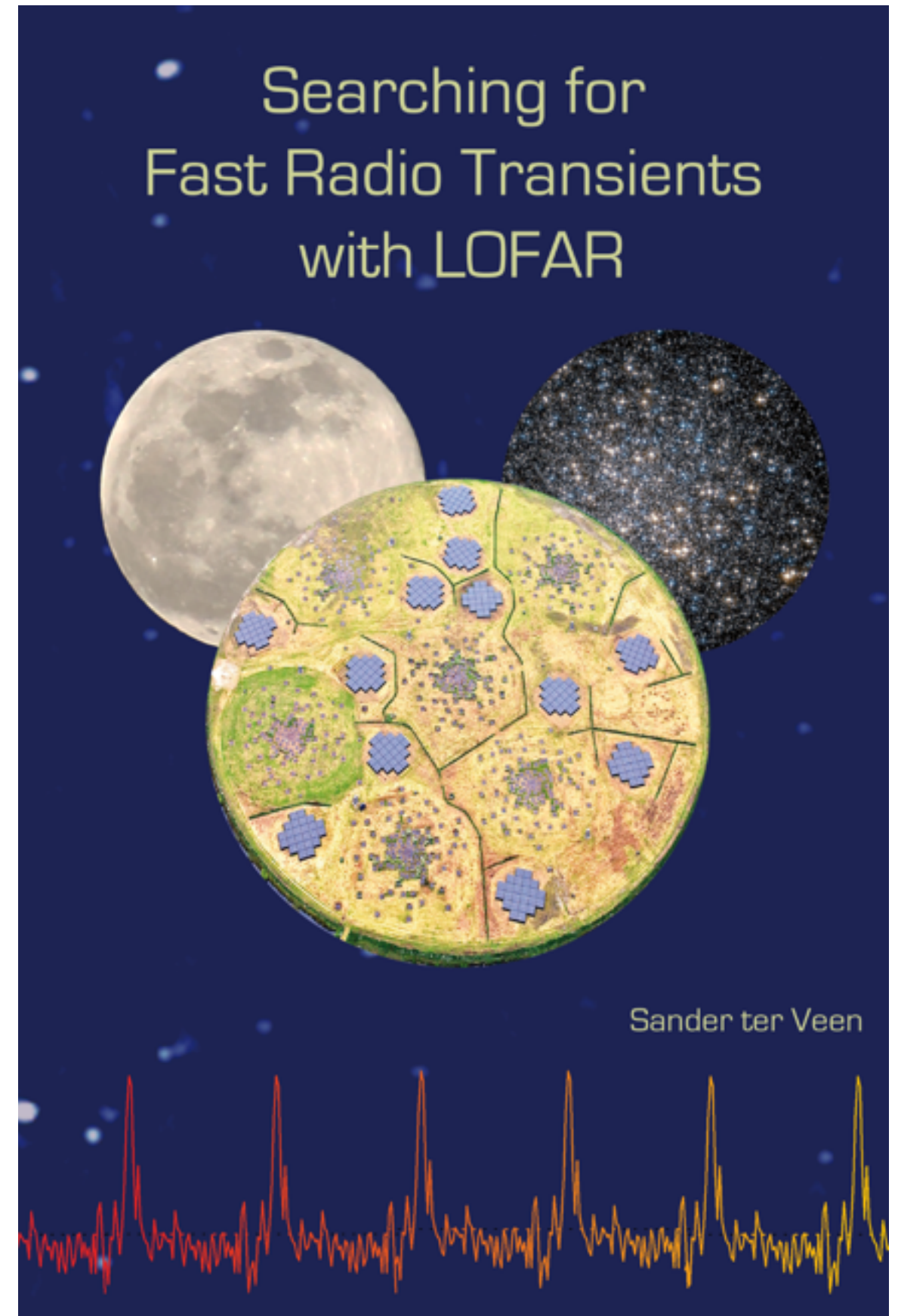
Dissertation

Jana Köhler

130 MHz map

- http://hss.ulb.uni-bonn.de/2016/4408/4408.pdf

Sander's Thesis

Chapter 2: TBB data acquisition

Chapter 4: FRB localisation

http://hdl.handle.net/2066/147186

Searching for Fast Radio Transients with LOFAR

Sander ter Veen

LOFAR Papers

- https://www.astron.nl/radio-observatory/lofar-science/lofar-papers/lofar-papers

- On cosmic rays and lightning

- Papers by Buitink, Nelles, Corstanje, Hare, Schellart, Scholten, ter Veen