

POL2 & SCUBA-2

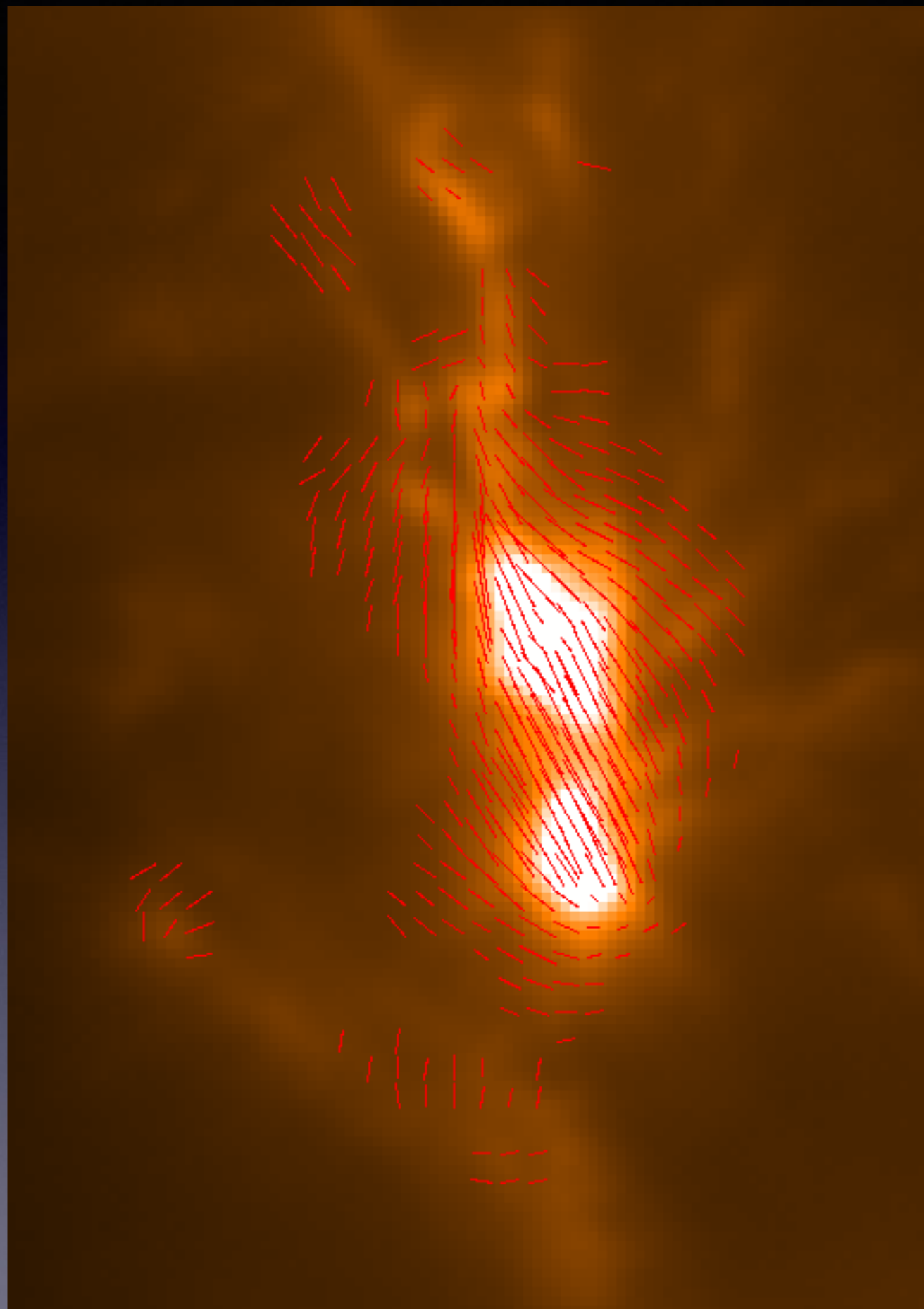
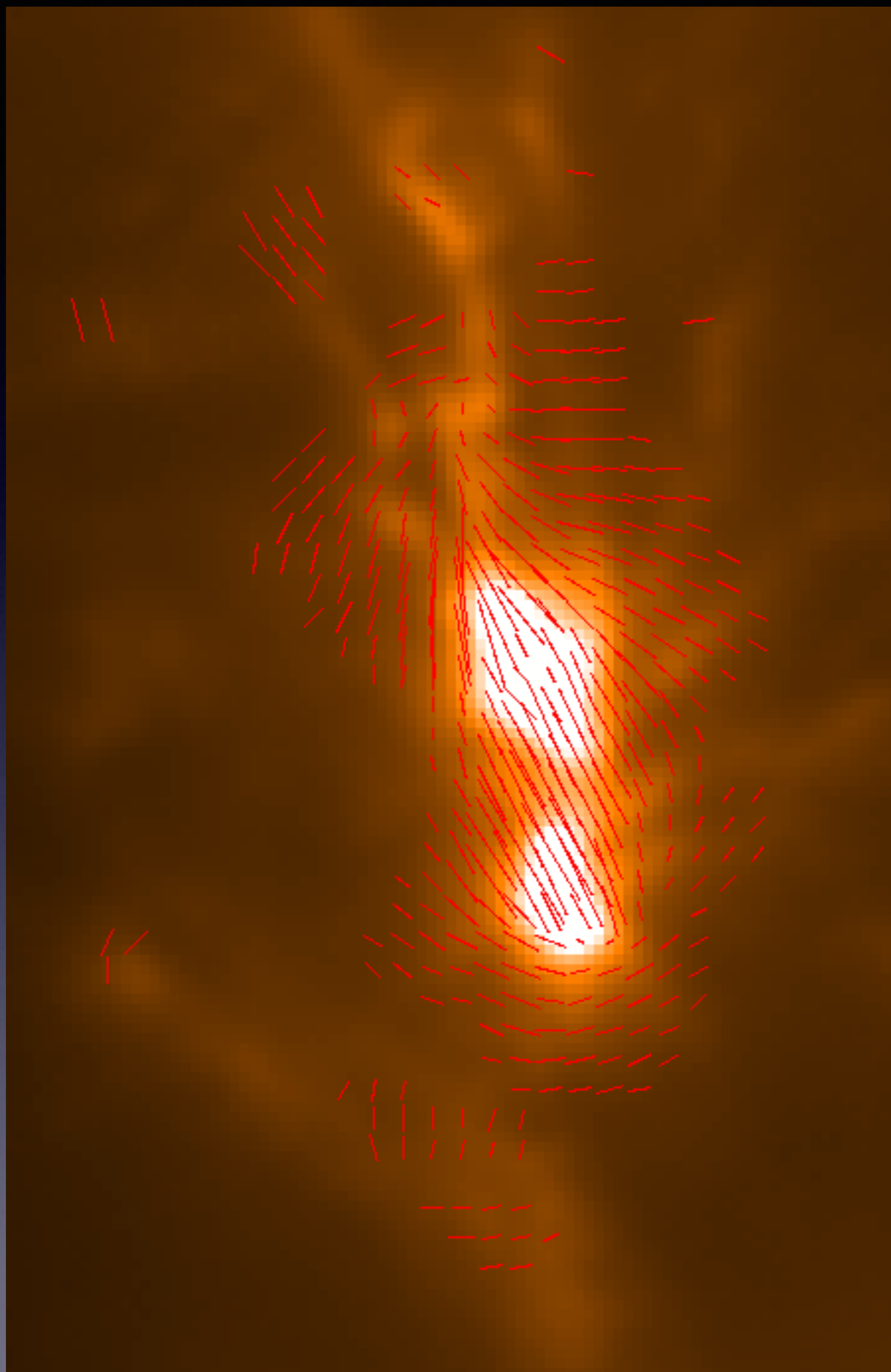
Commissioning well on the way



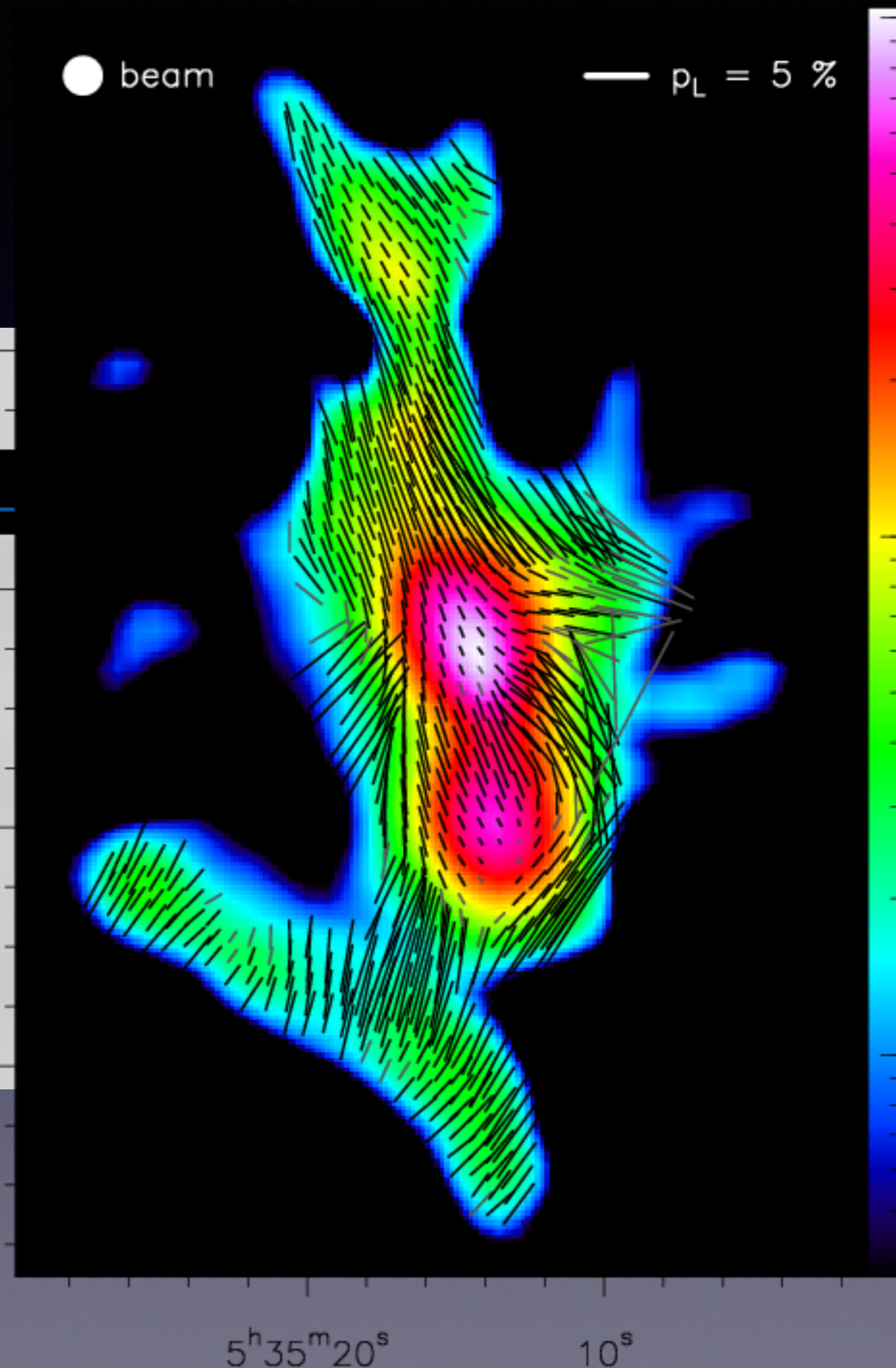
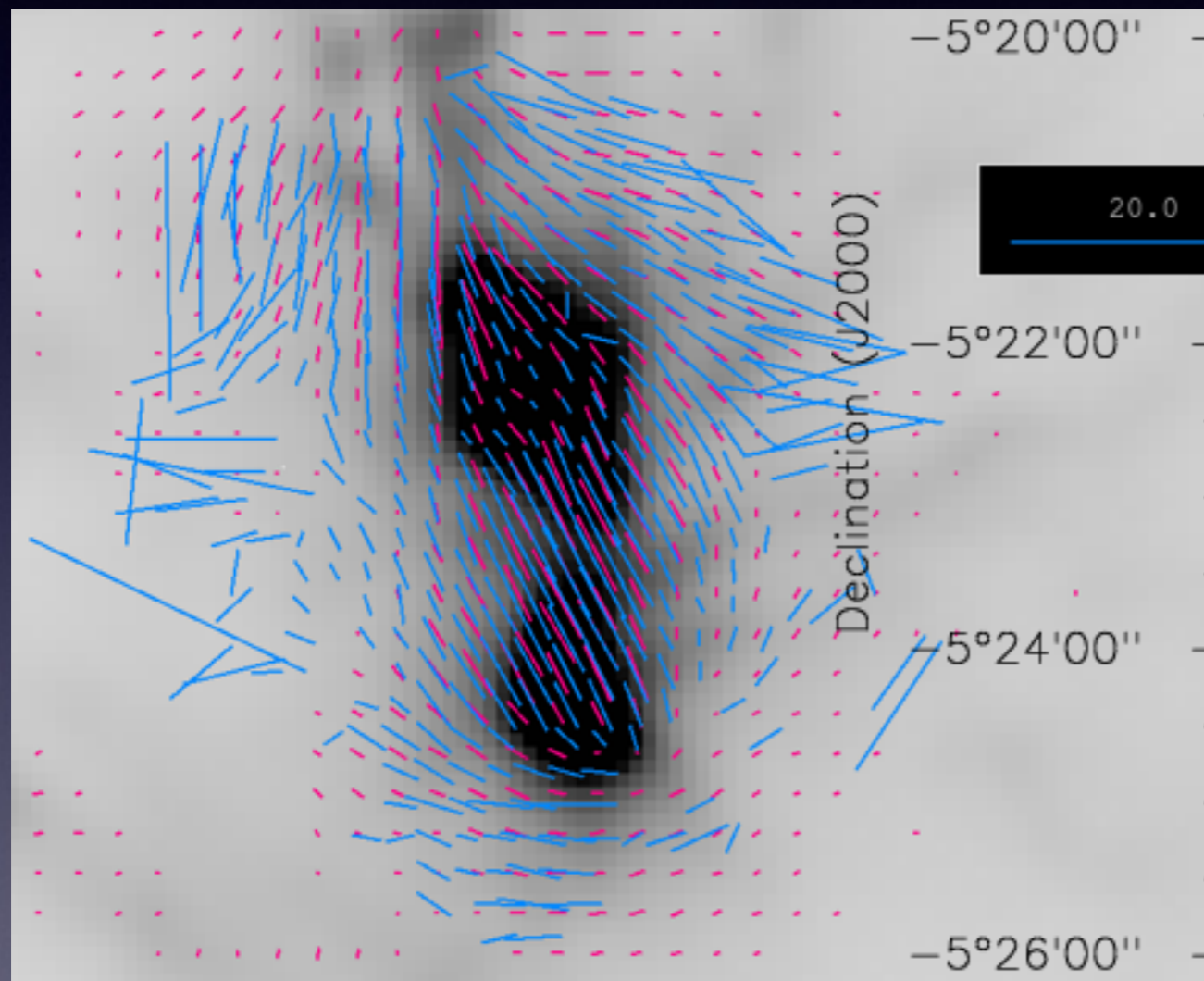
SCUBA-2 & POL-2 Mounted on the JCMT

- Covers the full SCUBA-2 field of view.
- Lambda/2 plate and analyzer





SCUBAPOL, POL2 & PoKa



Commissioning Issues

- The optics and in particular the membrane that protects the telescope polarizes the background.
- POL2 came without any dedicated reduction software.
- 2012/2013 - used small 5x5 grid maps to generate a time series to remove the background.
- Not working very well so commission halted due to STFC withdrawal from JCMT.

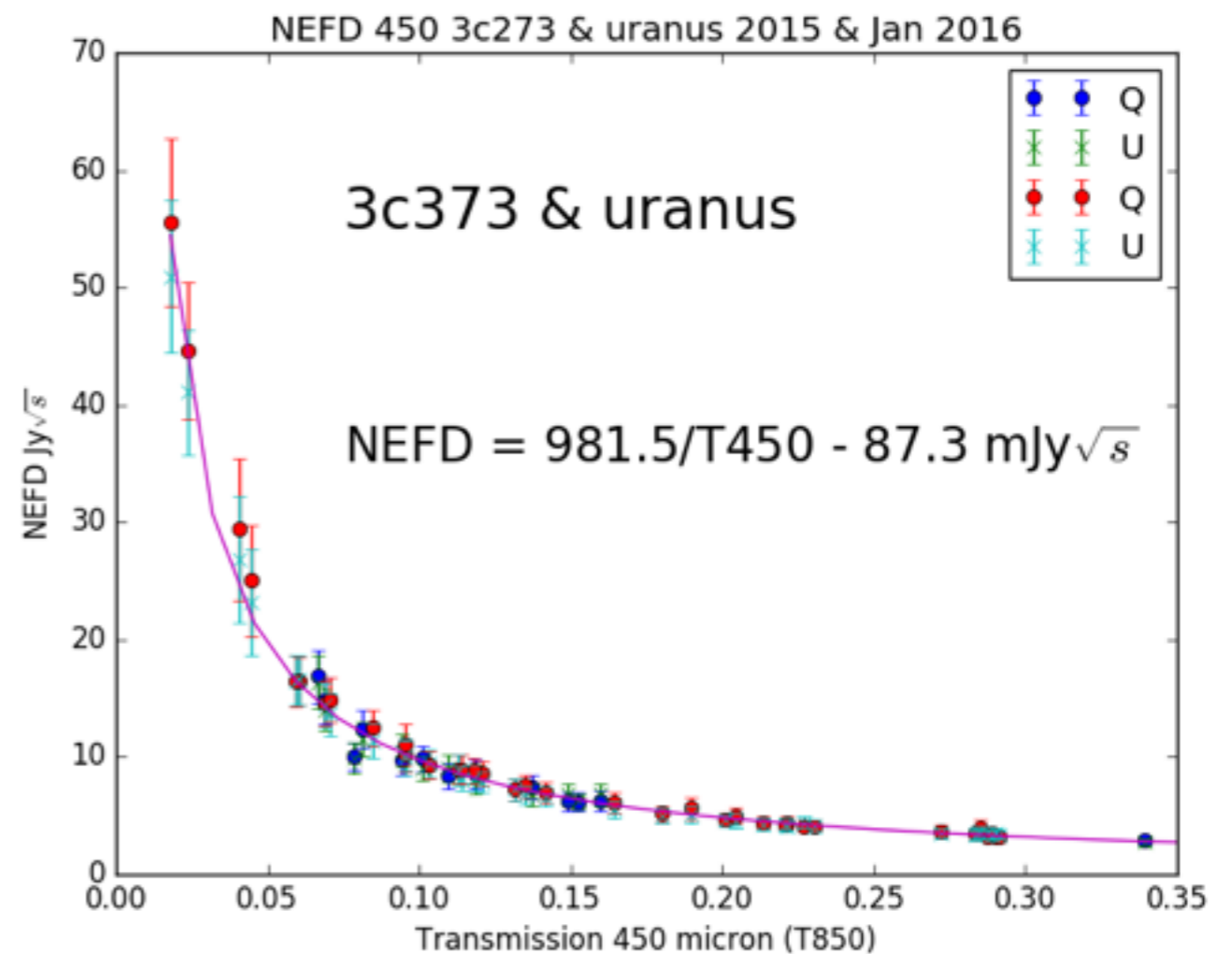
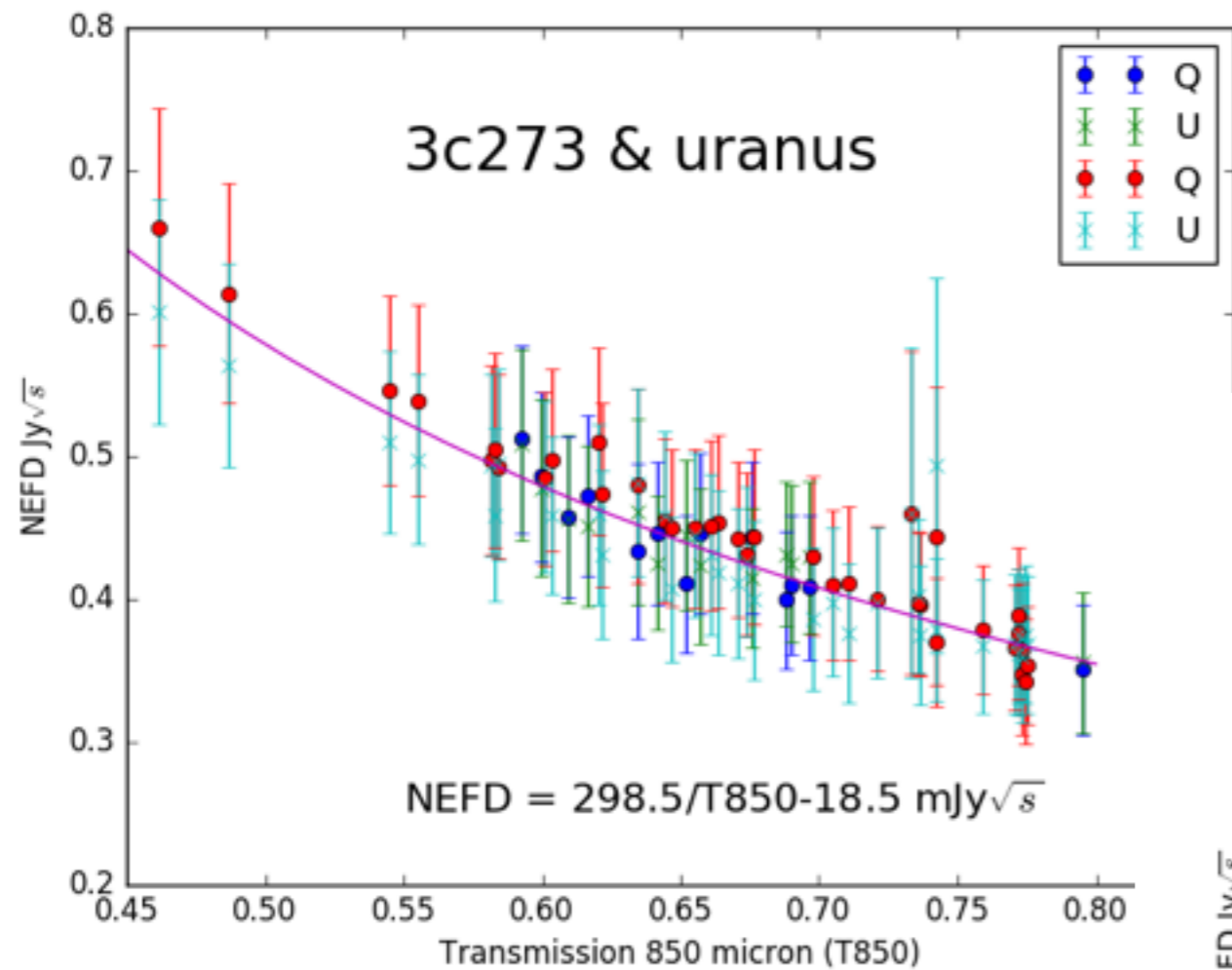
Data Acquisition & Observing Mode

- Spring/fall 2015 testing of scanning and development of dedicated reduction code.
- Scanning slowly (8"/s) & spinning wave plate fast (2 Hz) to measure Q and U before telescope have moved significantly.
- Much better results and good progress.

Data Reduction

- Based on the the SCUBA-2 scan reduction.
- Removes common mode signals - normal by PCA. Very effective with 100 thousands of points in the time series.
- Also possible to identify and remove bad data
- Applies extinction correction and Instrumental Polarization (IP) if supplied with reference total intensity data.

NEFD



POL2 released for 16B

- To support the proposal process we have
- Included POL2 in the proposal system Hedwig
- Generated a Integration Time Calculator
- Produced user documentation

Remaning Tasks

- Improve the Instrumental Polarization (IP) model
- IP variation across the focal plane and beam
- Improved scanning pattern
- Sensitivity to large scale structures
- How to best mosaic fields together

Exposure time per pixel in a map

