Turn On Galfa Survey (TOGS)

Commensal Observing with ALFALFA

TOGS Folks

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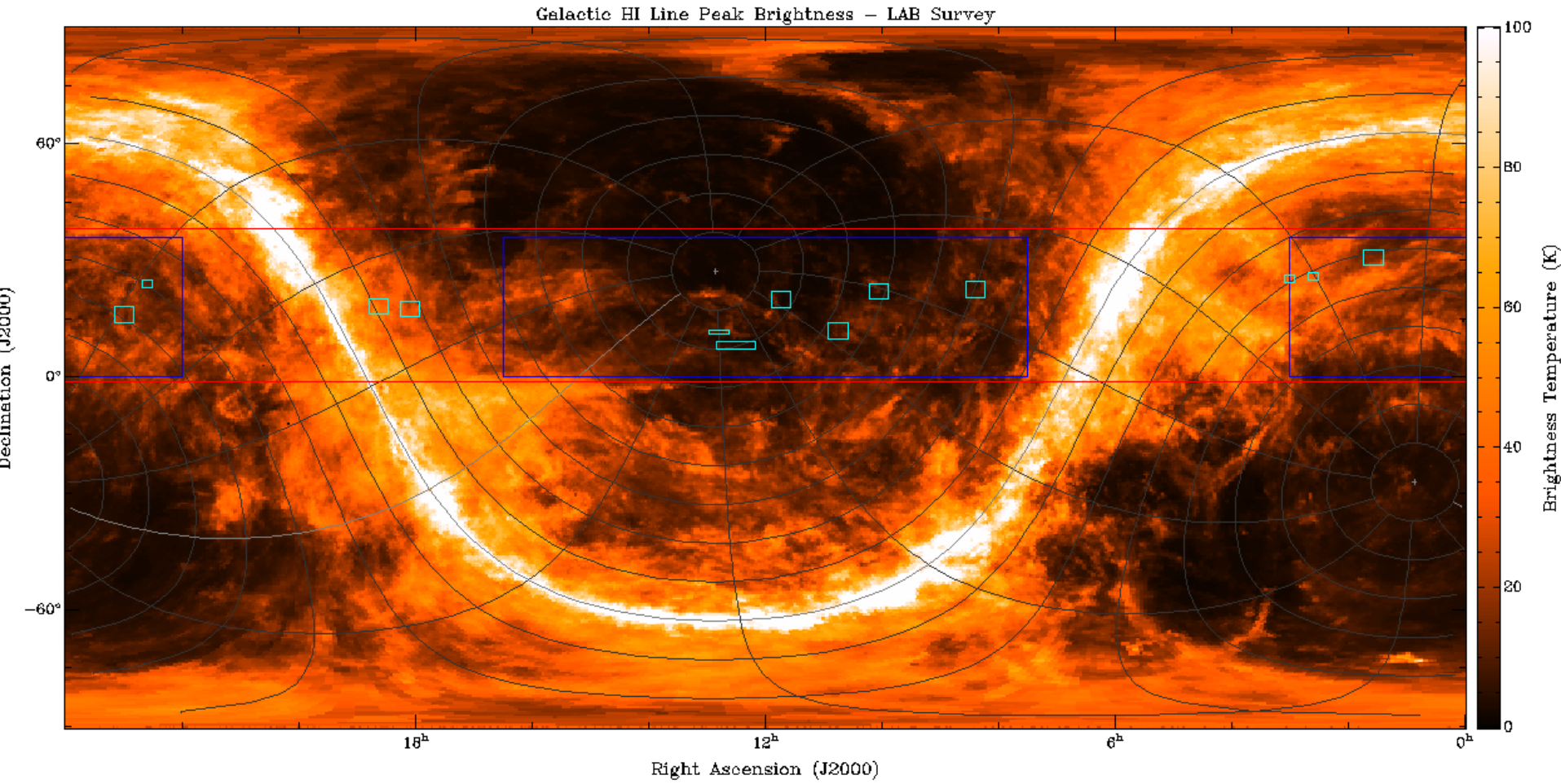
TOGS is Commensal with…

- ✓ ALFALFA (since Aug. 2005)
- ✓ AGES (since Jan. 2006)
- ✓ GALFACTS (when it begins in late 2006; TOGS2)

GALFA provides 0.2 km/s velocity resolution from -700 to +700 km/s


Galactic HI Line Peak Brightness – LAB Survey
60°
0°
−60°
Declination (J2000)
18h
12h
6h
0h
Right Ascension (J2000)
100
80
60
40
20
0
Brightness Temperature (K)

How does TOGS Work?

At the beginning of a run:

1. Telescope operator starts the GALFA spectrometer
2. ALFALFA observer runs calibration script

At the end of the run:

1. ALFALFA observer runs calibration script
2. Telescope operator turns off GALFA

10 minutes is allocated before and after each run for this

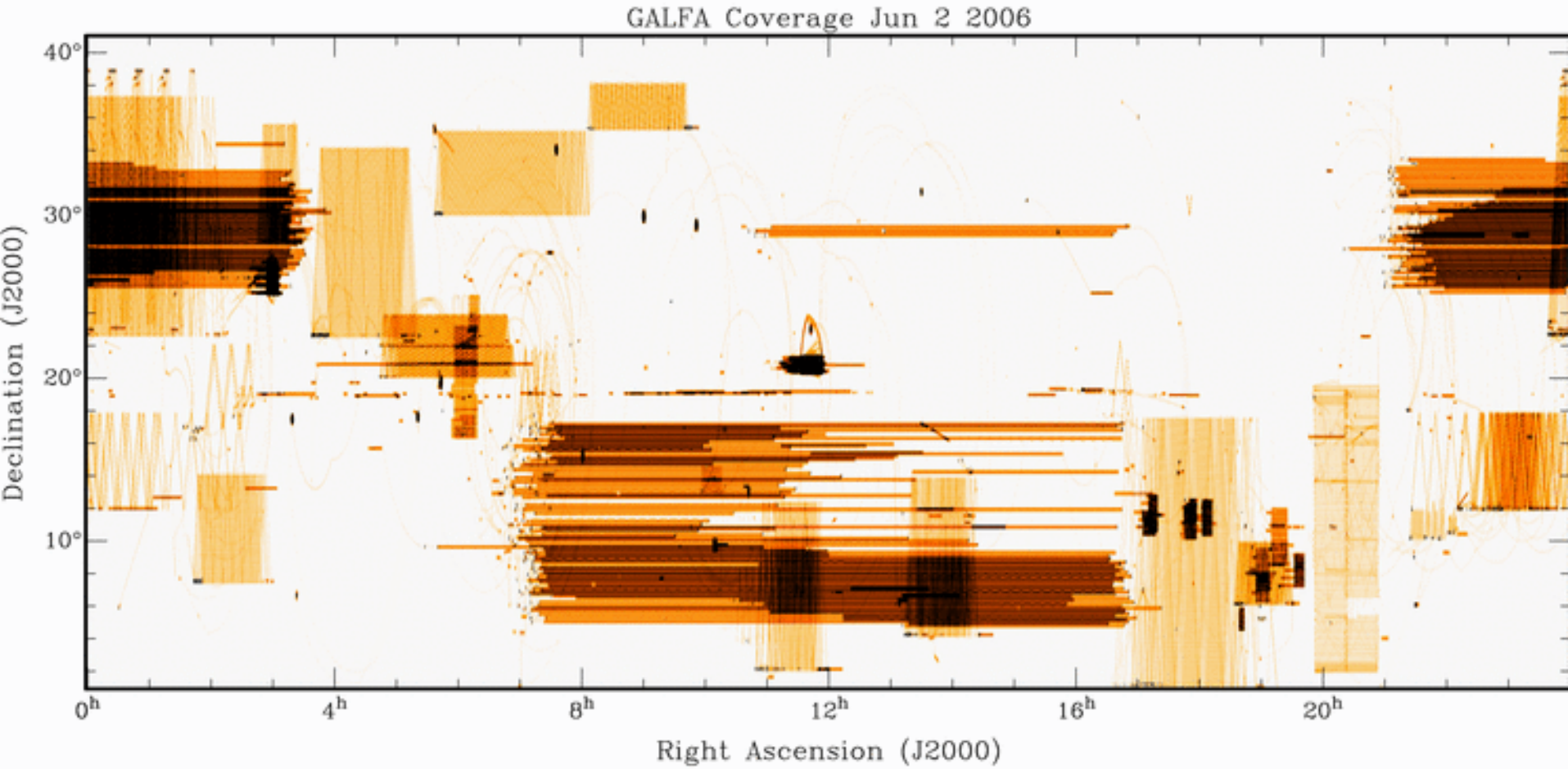
TOGS Data Monitoring

- TOGS contact person each night
  - http://www.astro.lsa.umich.edu/~mputman/togscontact.html
- Data monitoring by Kevin Douglas
  - http://setiathome.ssl.berkeley.edu/~douglas/togsblog.html
  - ALFALFA observing logs are a valuable resource
- Very few problems

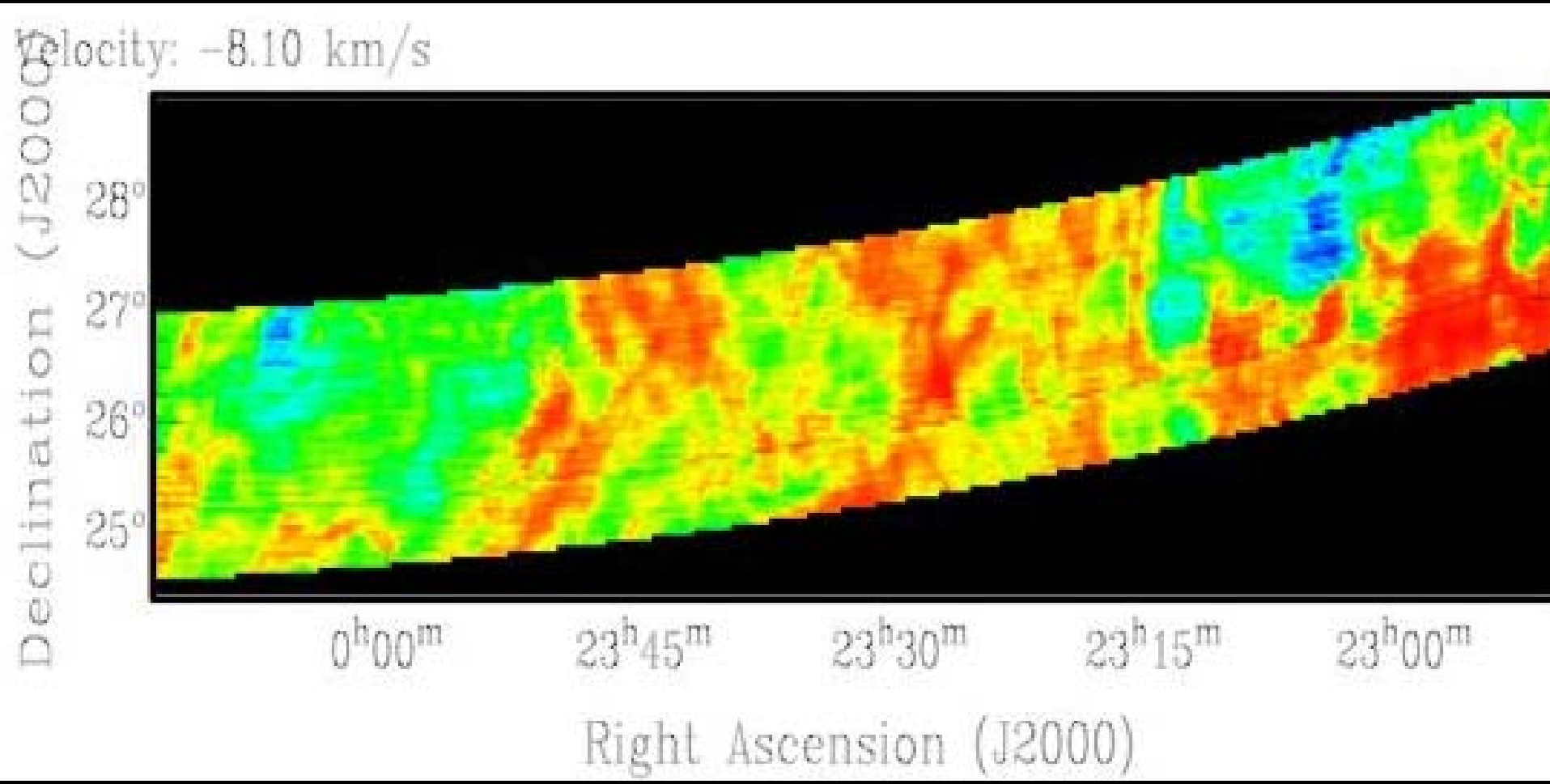
TOGS Data Reduction

- Frequency switching technique developed by C. Heiles
- Non-commensal GALFA observations are taken in basket-weave mode
  - Crossing points are used to correct system gain
- Software documentation at
  - http://astro.berkeley.edu/~sstanimi/GALFA/galfa_page.html

GALFA Data Archive
(written by M. Krco)

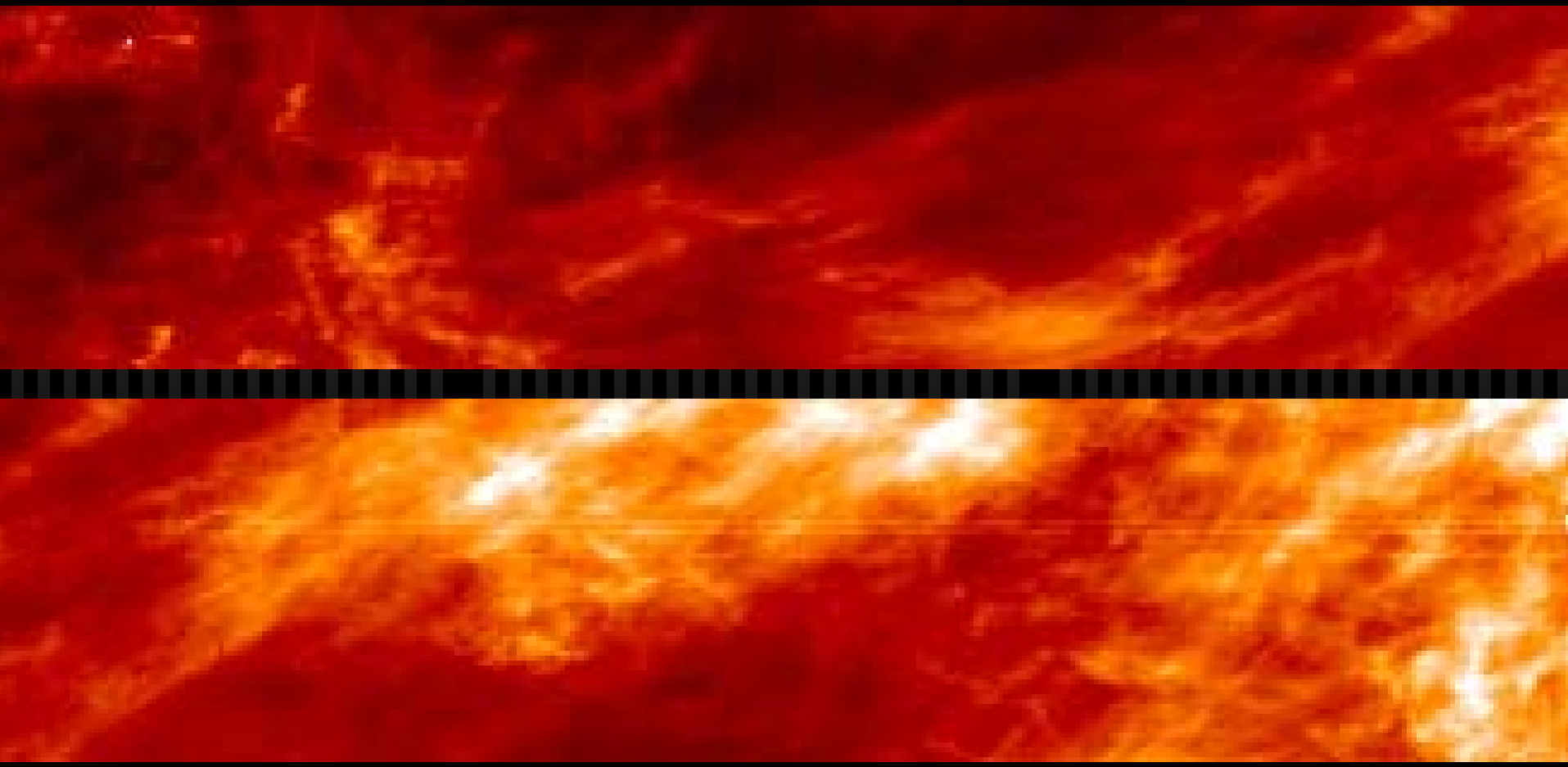


Pre-crossing scan TOGS data



Post-crossing scan TOGS data

(Fall 2005 TOGS commensal with ALFALFA data; 0 - 5 km/s)



TOGS Science

- Galactic HI in star forming complexes
- Small scale structure of Galactic HI
- Disk-Halo interfaces
- Halo clouds and their interaction with the halo
- GALFA papers submitted:
  - "First Results from the Arecibo Galactic HI Survey: The Disk/Halo Interface Region in the Outer Galaxy", Stanimirovic et al.
  - "Reconstruction Deconstruction: High-Velocity Cloud Distance Through Disruption Morphology", Peek et al.
  - Several more in preparation

TOGS Summary

- ✓ Successful commensal observing
- ✓ Crossing scans will be obtained with TOGS2 (commensal with GALFACTS) or other GALFA observations
- ✓ Useful dataset for studying extended emission in the Galaxy and Galactic Halo

THANK YOU!!!