Turn On Galfa Survey (TOGS)

Commensal Observing with ALFALFA
TOGS Folks

M. Putman (U. Michigan), S. Staničević (Berkeley), C. Heiles (Berkeley), K. Douglas (Berkeley), J. Peek (Berkeley), E. Korpela (Berkeley), S. Gibson (NAIC), C. Power (Swinburne), H. Arce (Caltech), T. Bania (Boston U.), F. Briggs (ANU), L. Dedes (U. Bonn), B. Gibson (U. Leicester), B. Koo (Seoul National U.), F.J. Lockman (NRAO), J. van Loon (Keele)
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
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!!!