LWA User Program Update

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on behalf of the LWA collaboration

Outline

- Currently approved projects
- Scheduling of observations
- Data transfer to user
- Archiving
- Data reduction

Approved Projects LWA1

Project Title	PI	Code
LWA Cosmic Ray Air Shower Trigger	Besson, D.	LB001
Tracking the dynamic spectrum of Jupiter	Clarke, T.	LC001
Ionospheric Scintillations	Crane, P.	LC002
Passive Meteor Scatter using the Long Wavelength Array	Close, S.	LC003
A GCN-Triggered search for prompt GRB emission	Ellingson, S.	LE001
Crab Giant Pulses	Ellingson, S.	LE002
Continuing measurements of the CasA/CygA flux ratio	Hartman, J.	LH001
Searching for hot Jupiters with LWA1	Hartman, J.	LH002
Carbon Radio Recombination Lines in the Cygnus Arm	Pihlstrom, Y.	LP001
Multi-frequency large scale sky surveys with LWA1	Polisensky, E.	LP002
Low Frequency Studies of Radio Pulsars	Ray, P.	LR001

Approved Projects LWA1 cont.

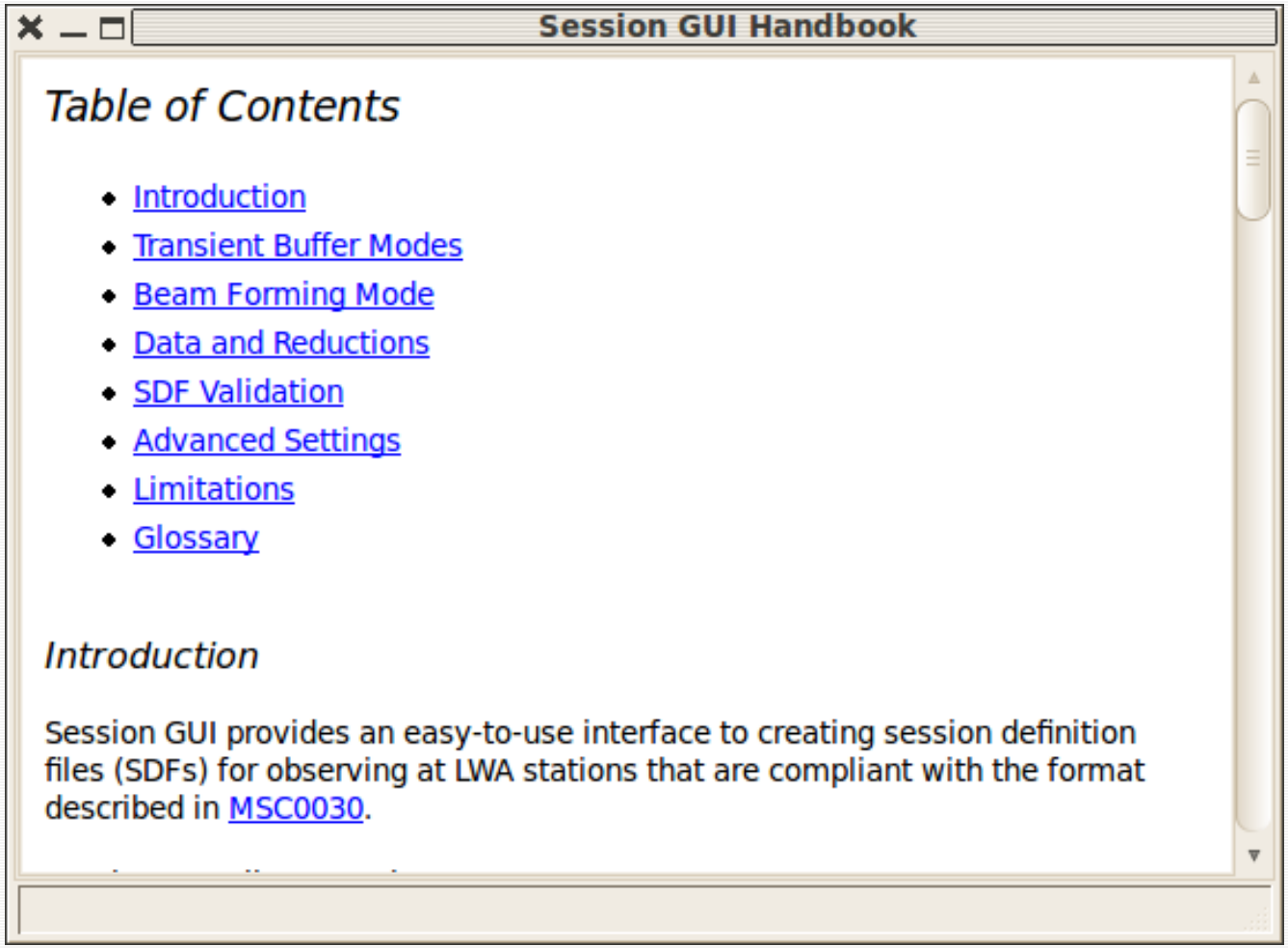
Ionospheric Absorption Measurements Using LWA-1 as an Imaging Riometer	Rickard, L.J.	LR002
Single Dispersed Pulses	Simonetti, J.	LS001
Observing the Transient Universe with the First LWA Station	Taylor, G.	LT001
Solar Radio Bursts at High Temporal and Spectral Resolution	White, S.	LW001

- Future proposal call TBD
  - End of 2011?

Scheduling

- LWA project office schedules *when* a project will be observed
  - Depends on data rate & storage capabilities
  - Transient science may override normal projects
- LWA user schedules *how* a project will be observed
  - A block of time will be allocated by scheduler
  - User creates a session definition file that will be read by MCS (compliant with MCS0030)
  - File verified by scheduler and then fed to MCS for scheduling
  - Data copied, MCS creates meta-data

GUI example


Session GUI Handbook
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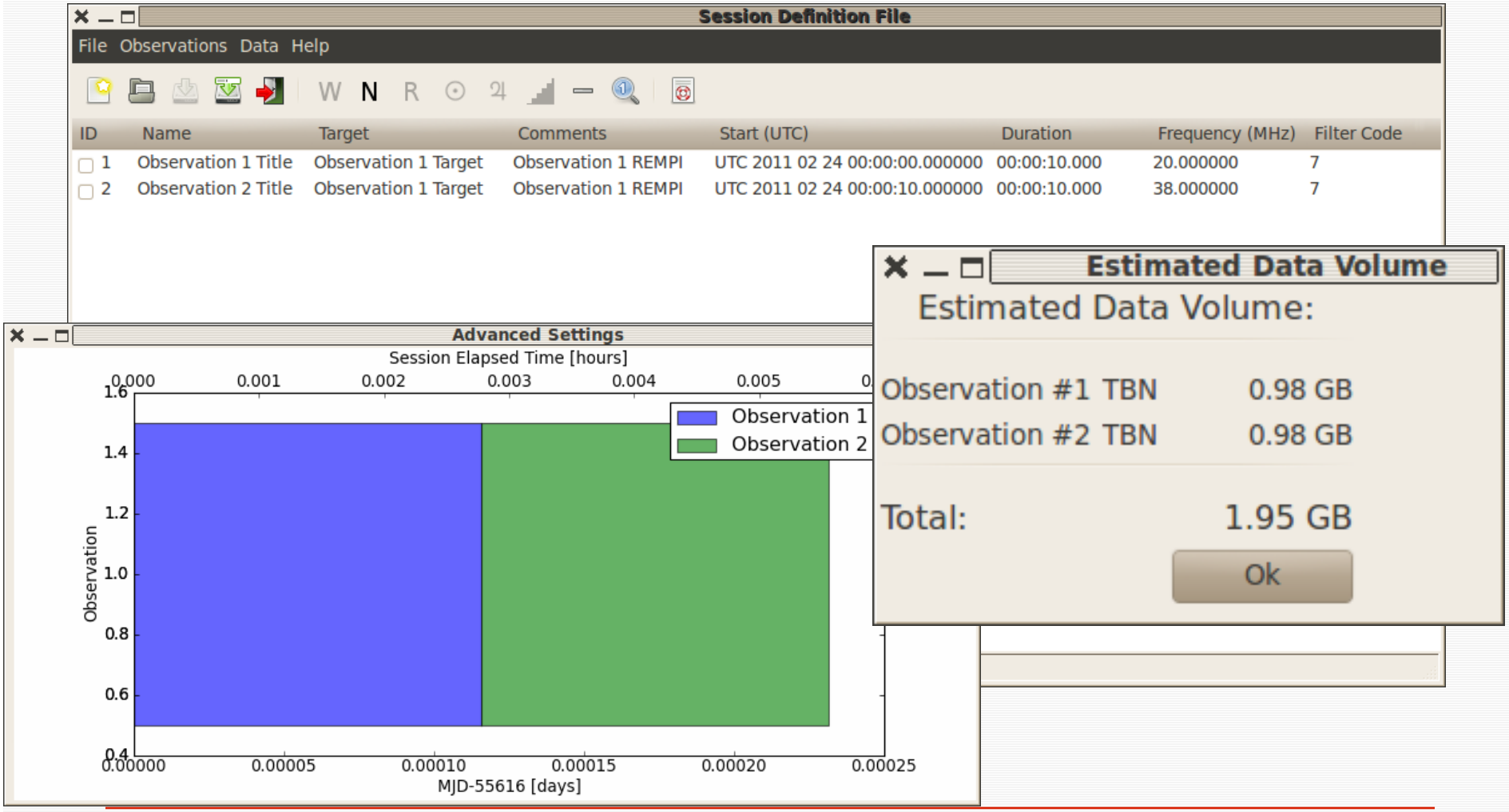
Introduction
Session GUI provides an easy-to-use interface to creating session definition files (SDFs) for observing at LWA stations that are compliant with the format described in MSC0030.

GUI screenshots



Transfer of data to user

- LWA memo 177 contains all details
- Limited resources constrain user data collection options
- Assumptions:
  - DRX 627 Mbps
  - TBN/TBW 1000 Mbps
  - Data collection at site ~1/week

Option 1: Raw data

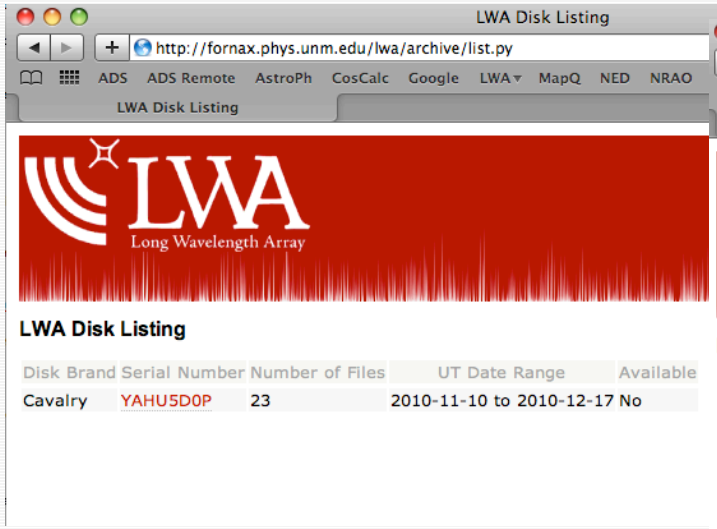
- TBN/TBW, and if no averaging acceptable at DRX
  - User provides storage medium
    - DRSUs
      - 2 DRSUs => 36 hours observing per week
    - External USB harddrives > 2TB, ext2 formatted
      - 5 drives => same duty cycle but up to 72h for cpying the data to drives

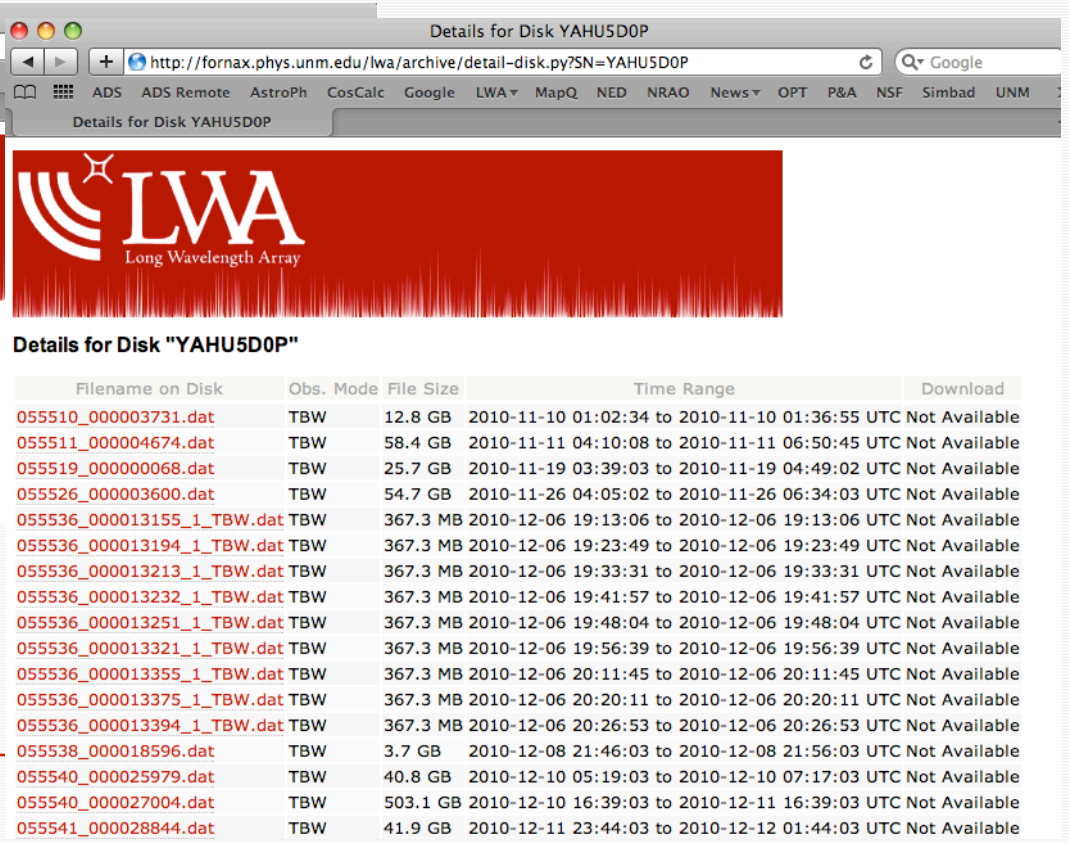
Option 2: Averaged data

- Time and/or frequency averaged data
  - Written to FITS format
  - Archived at UNM for internet user access
    - Connection rates 8-30 Mbps
  - Reduction to 20 Mbps required (typical averaging factor >30)
    - Example: 4096 channels, 1s integration => 0.26 Mbps
- Performed at site with data recording computers when data is not actively recorded

Archiving

- Currently disks in shelf, will be connected for data transfer upon request from user.
- Access via http://fornax.phys.unm.edu/lwa/archive/list.py





Metadata & proprietary period

- Metadata available via UNM archive webpage
- Proprietary period 1 year

Data reduction

- A lot will be left to individual users, but we will
  - Provide a LWA software library
  - Provide a central repository for new software
- We will not:
  - Provide calibrated/reduced data
- Users encouraged to call in to the weekly TWGs to find out what is going on, and to discuss specific issues with the data
- Consult the wikipage