Exp Date: Week of 03/10
Source: CasA

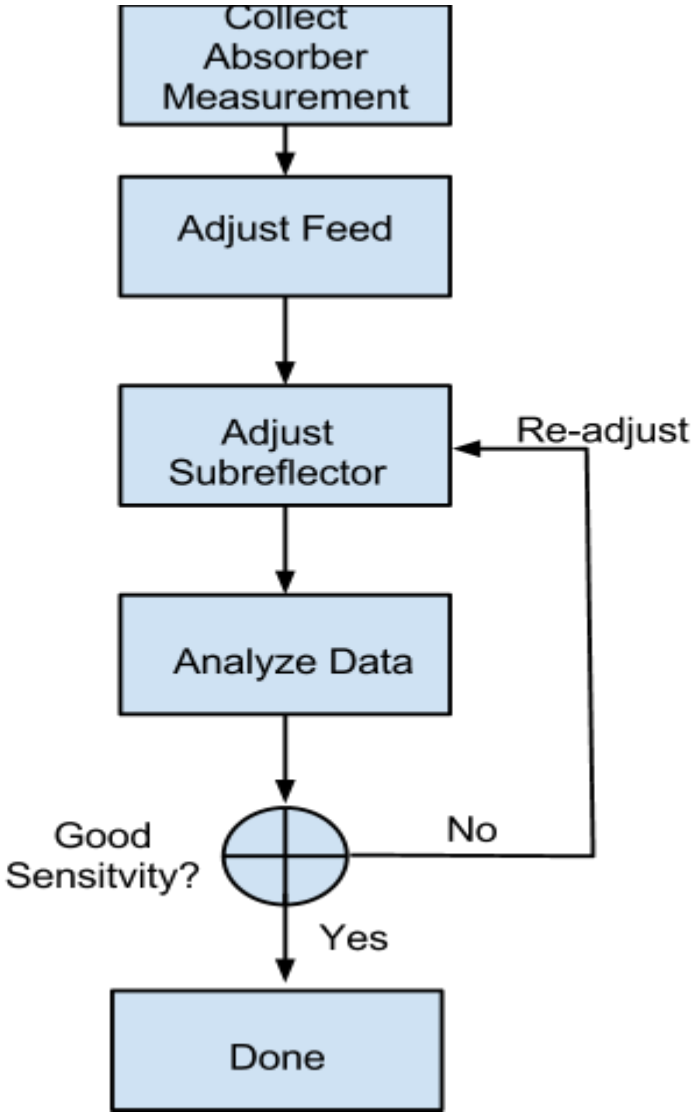
11.432 GHz Source flux: 305 Jy
11.432 GHz Current Apt Eff: ~40%
11.432 GHz Expected Apt Eff: ~58%
11.432 GHz Tsys: ~60K

Expected increase in total on-source power : 1.27- 0.91 = 0.36 dB relative to 60K Tsys

Preliminary Setup:

1 Handheld controller functional?
2 Reference markers for pre-adjustment positioners of Dewar and subreflector
3 Determine thread pitch of subreflector mounting bolts.
4 Setup UDC for Ku band observing (Luff = 8250 MHz)
5 Configure mk4/fs for Ku band observing

Process:



Absorber Measurement procedure:

- Place absorber in front of feed
    - measurement broadband spectrum
    - measure VC total power counts

Feed adjustment procedure:

- Only necessary to perform once since focal depth of optics is ~4 inches long
- Position adjusted from ground with handheld controller [Katie/Jay]
    - 2nd set of eyes watching reference marker on Dewar to avoid hard limit

- Coordinated in real-time over phone/RDP SA monitoring [CJB]
    - Search for peak in SA total power as a function of feed position over ~6 inch
    - ***Use length of wire tied to positioner extended to ground compare against ruler on pedestal as a temporary measure of payload translation from ground. Ultimately, drive motor encoder will be monitored for this purpose***
    - Search time should not exceed ~30 seconds to avoid temporal decoherence
    - no mk4 measurements in these procedure

Subreflector adjustment procedure:

- Antenna at stow for adjustments
- Adjustments in increments of 0.125 inches[Katie/Jay]
    - Adjustment by equal turn of threads
    - + movement towards receiver with current position defined as origin
    - - movement away from receiver with current position defined as origin

- SEFD used as metric of optical alignment [Ed/CJB]
    - execute mk4 five-pt to adjust pointing
    - on-off to estimate SEFD
    - collect broadband on/off measurements with SA

Data analysis procedure:

- Mk4 SEFD processed by fs [Ed]
- Broadband sensitivity computed using MATLAB script [CJB]

Decide

- Done
    - Keep making adjustments until a maximum is located, this requires that adjustments are continued until a discernable peak in the aperture efficiency is identified.
    - After moving past peak, re-position SR to location of maximum and repeat sensitivity data collection

- Re-adjust
    - if peak has not been identified