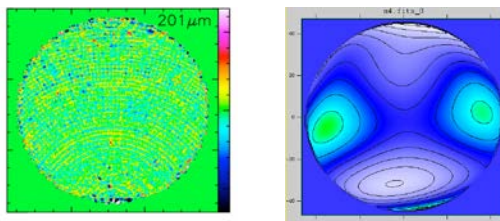




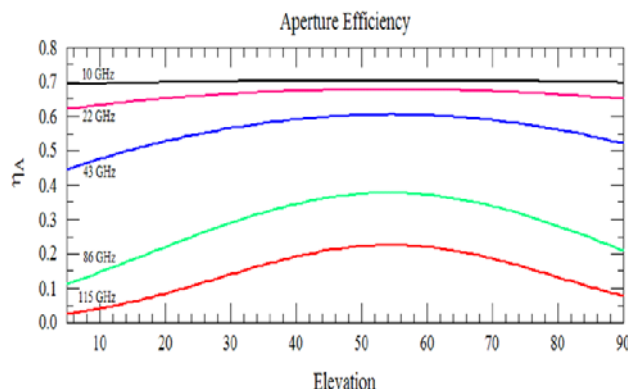
High Frequency Performance of the GBT

Ronald J Maddalena, Adam Kobelski, David Frayer, Frank Ghigo, Karen O Neil (NRAO)

Surface

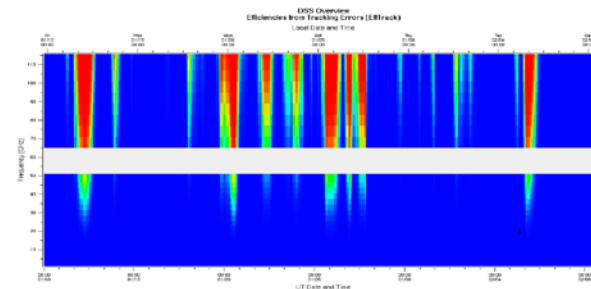
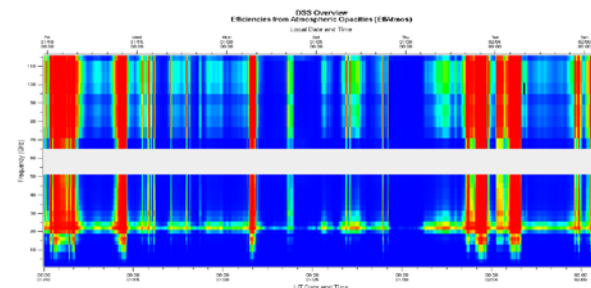
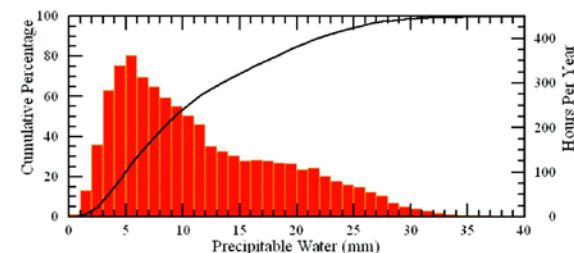


250 μm (RMS) - Nighttime

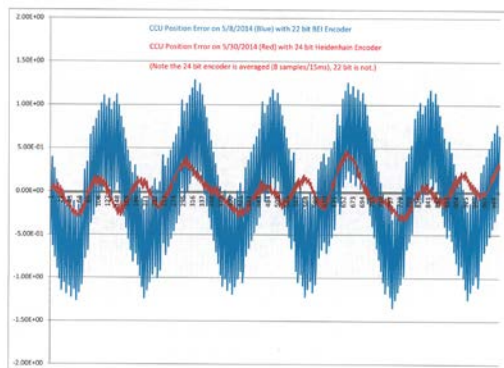


Weather

Frequency	tau < 0.1	tau < 0.2
22 GHz	2600 h	4000 h
45 GHz	---	2800 h
86 GHz	975 h	2100 h



Pointing



1.25" with no winds
 3.5 m s⁻¹ winds ~ 1"
 (occurs ~40%)

- Plan to use Quadrant Detector data to first blank data when the feed arm motion has created a significant pointing error.
- Then, use the QD measurement to servo control the subreflector to remove in real time the pointing errors introduced by wind-induced feed arm motions.

HIGH FREQUENCY INSTRUMENTS FOR THE GBT



- 100 m dish capable of 0.1-115 GHz
- Versatile GBT Astronomical Spectrometer (VEGAS)
 - up to 64 windows with 0.2 kHz resolution (or 8 windows at 0.02kHz)
- KFPA - 7 beam focal plane array observing between 18 and 26 GHz.
- Mustang 1.5 - 32 feedhorn dual polarization TES bolometer observing between 75 and 105 GHz – to be commissioned in December/January
- 16 element Argus which observes between 75 and 115.3 GHz
 - to be commissioned in December/January
- Among many other single/dual beam receivers at other resolutions
- Contact akobelsk@nrao.edu for more information/assistance planning observations