

RSRO P-band report (Susan Neff):

- Susan has been working mostly at P-band. She is writing a best-practices observing guide (how to avoid mistakes) that will be used for this coming call for proposals in which P-band observing will be offered as a shared risk mode.
 - The observing guide has been written and it is being reviewed by Eric and Frazer. It will be posted at the new low-band web site (<https://science.nrao.edu/facilities/vla/commissioning/low>).
 - The guide is mostly done in AIPS with some of the wide-band imaging done in CASA.
 - Minnie will be converting this to CASA once all the functionality we need is in CASA.
 - Note: Eric is going to use Susan's procedures to reduce a spectral line P-band test dataset that was taken last night. Folks from NRL are also going to be testing the procedures to ensure the steps are robust and work for a wide range of datasets. This is the first steps to developing pipeline heuristics.
- Susan has worked on 5 datasets, observing with P and 4-band. A summary of some of the things she has found include:
 - She characterized how useful was it to look at the edges of the bands where the sensitivity of the bands roll off. She broke the bands into narrow chunks. Some edge band chunks turned out to be reasonably clean and they made marginal improvement but the end result is that it is not worth the amount of effort required to salvage the data.
 - The optimum default frequencies for P-band are: (236-492 MHz)
 - There are some narrow bands that must be removed because of RFI but this is a good region.
 - The frequency we can cover is hugely better than what was available with the previous P-band system in which we could only recover about 12 MHz of bandwidth.
 - RMS determinations in the images were used as inputs to determine efficiency and T_{sys} and this was then used as input in the Exposure Calculator.
 - Note: 8 min on the GOODS North field gives 1.6 mJy/beam RMS with 7 antennas.
 - Susan noted that the Perley-Butler coefficients for absolute flux density determination at P-band can be as high as 30% off – indeed, these coefficients are not guaranteed below 1 GHz frequency.
 - This area needs work.
 - Susan also observed a test data set for her RSRO program. She is now writing instruction about how users will create their P-band SBs in the OPT when they obtain shared-risk observations.