

Plots of first Interferometric + WVR data from OSF

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This is a very quick first analysis of the data taken on the night of 4th October at the OSF.

On the next page are the plots comparing the fluctuations in the difference of sky brightness seen by radiometers on DV01 and DV02 to the path fluctuation measured by the interferometer. Separate plots are made for each of the channels of the radiometers. I've used the SPW1 data from the measurement set – it looks to be of good quality.

Some points to note:

- Overall path fluctuation on this baseline was around 100 micron, so rather less than the median fluctuation at the site on the site-testing 300 m baseline
- The conditions were quite wet so channel 1 has little useful information
- I haven't removed any running mean from either the sky brightness difference or the inferred path
- I've unwrapped the interferometer phase using a basic algorithm which works fine in this case (fluctuations are less than a wavelength)

The main conclusion is that these data look **very encouraging** as there is clearly a lot of correlation between the two signals! There is lots more work to do to work out how well we can predict the coefficients and what the limiting factors are, but it is very good to see a reasonable correlation at what I take was the very first try.

