Multipath
Homework 4

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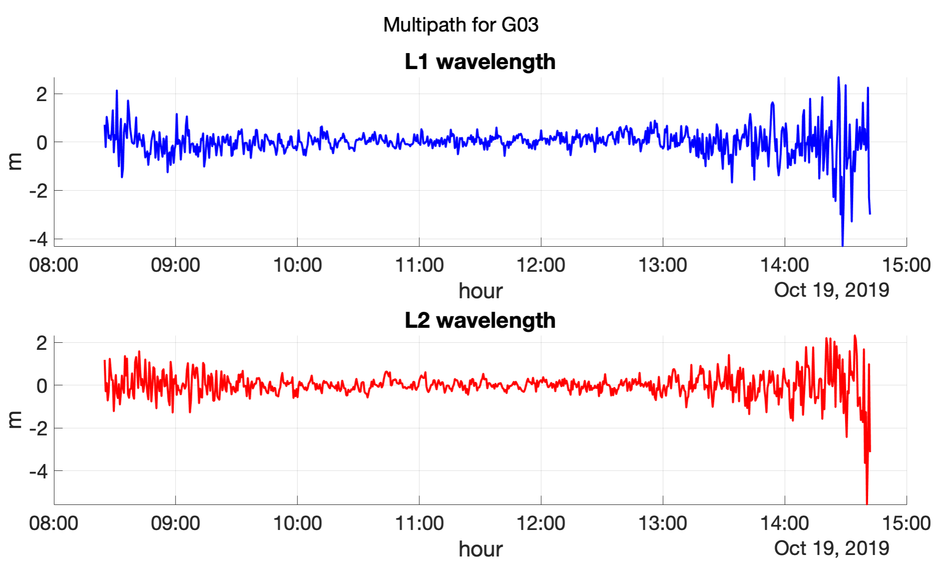
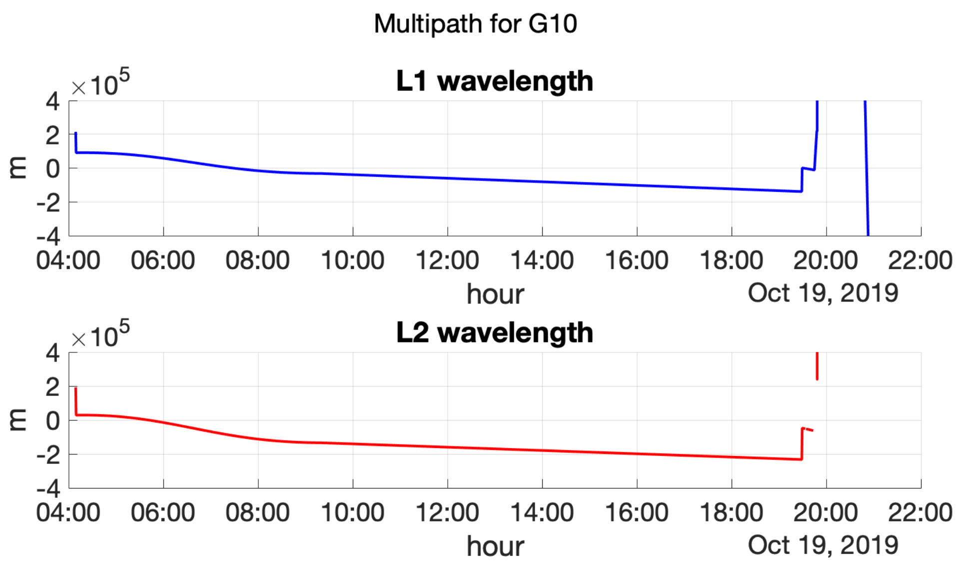
1 Multipath for L1 and L2 for satellite G03

The L1 band uses the frequency 1575.42 MHz which is slow comparing it with the L2 band with 1227.60 MHz. This allows the signal to better travel through obstacles such as cloud cover, trees, and buildings. In the Figure below, we observe the L1 and L2 begin with a characteristic noisy data when the receiver started to measure. Throughout the day, it appears the multipath signal starts to oscillate in around 0 m. But at the final stage of the measurement, around 3 p.m., we observe how the signal starts to be affected more by the multipath.



2 Multipath for L1 and L2 for satellite G10

For the satellite G10, from the 2880 position data we ended up with 851, this is because 71% of the data was null values. To observe the multipath for both wavelengths, I filter and compute the mean values for the multipath at L1 and L2 for all the existing data. The graph below shows the result of such operation, but the y axis shows a real significant multipath signal for both wavelength, which I believe it is wrong.



The signal which we do not take into account is the ionospheric and atmospheric contributions.