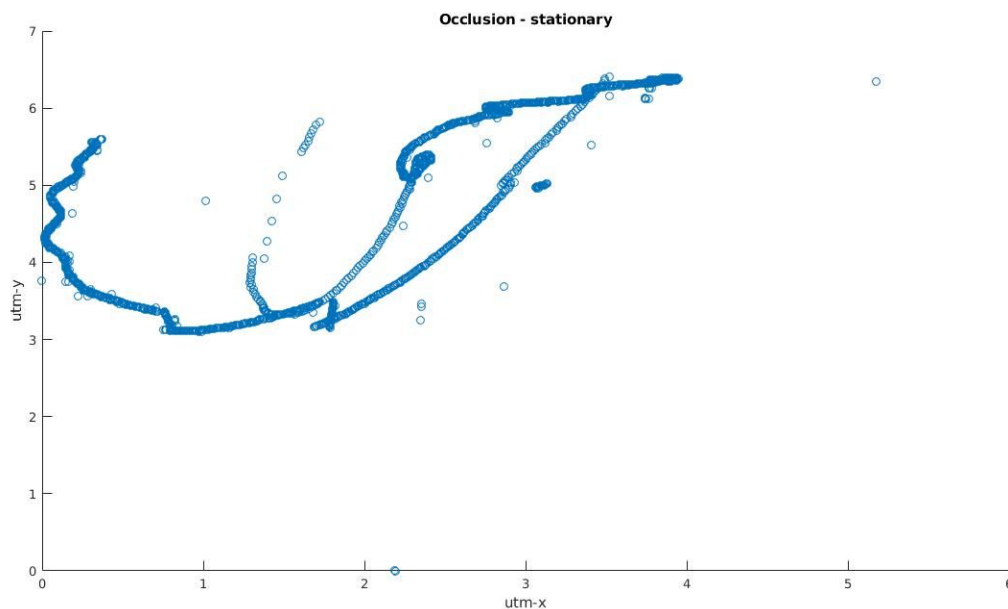


Lab 2 - RTK GPS

Introduction

Real Time kinematic navigation is used as a means to enhance the precision of the GPS readings in the corresponding Lab. When we compare the acquired data in Lab 2 (using RTK GPS) to the data acquired in Lab 1, we get considerably better results.

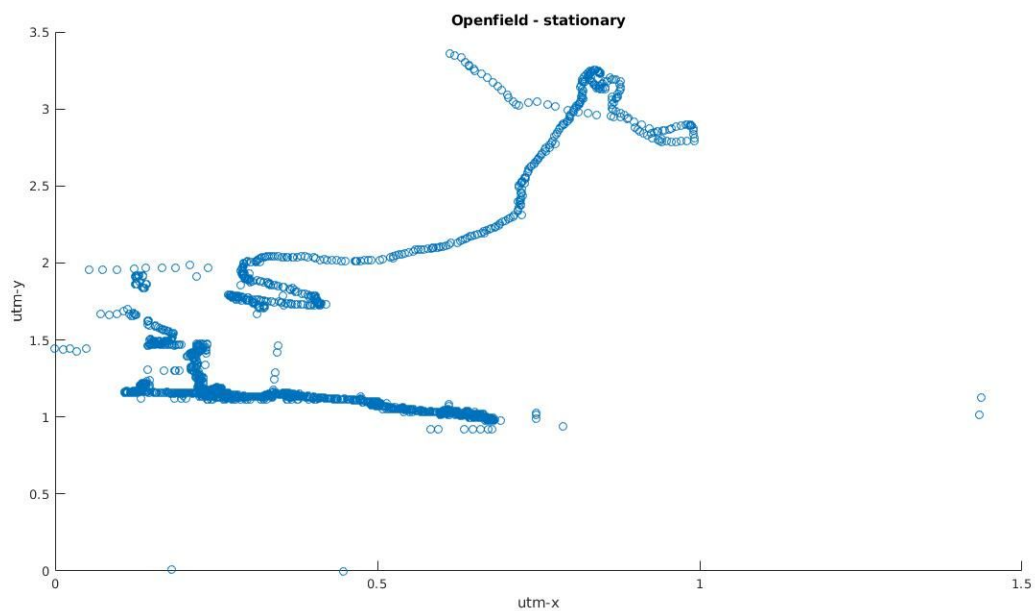
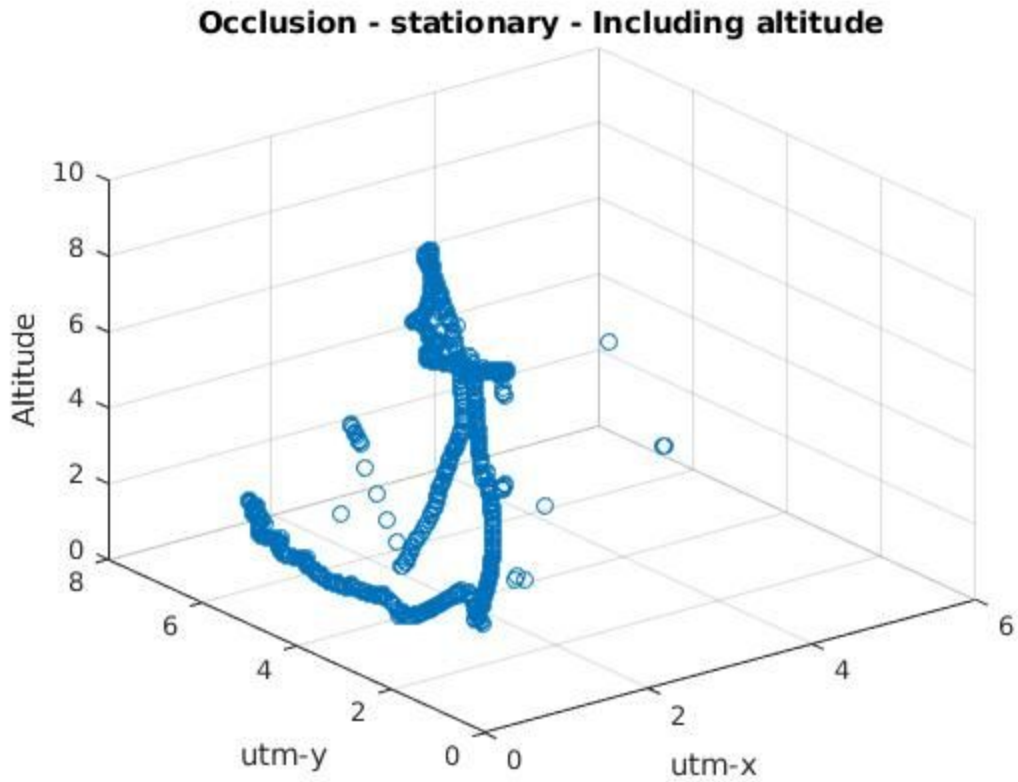
This is shown in the subsequent plots :



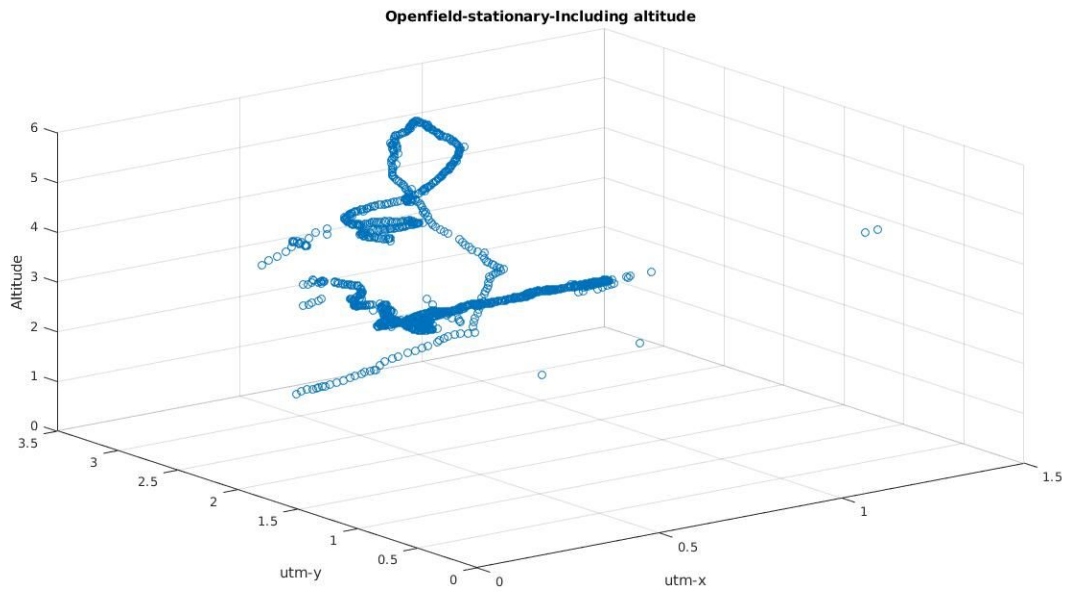
We were asked to collect data at 2 spots, one where multipath propagation effects and reflections from nearby structures may cause some noise and the other place where it's relatively open, like a park or the top of a parking garage.

We see that there is the variation of 4-5 mts in both the directions whereas in the previous lab it was around 8 mts. We see the same data but along another dimension as well.

When we move to an open space the readings get better and we experience less variance in the error in data.



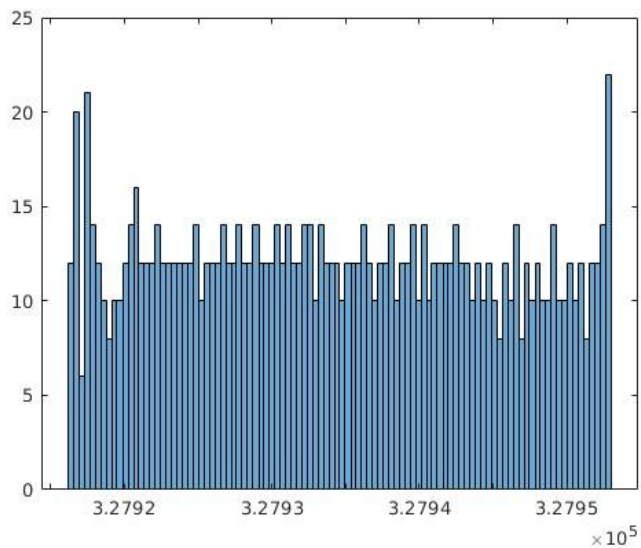
We can observe clearly how the readings are confined to deviations ranging from 2-3 mts. The same plot is given below along with the altitude:

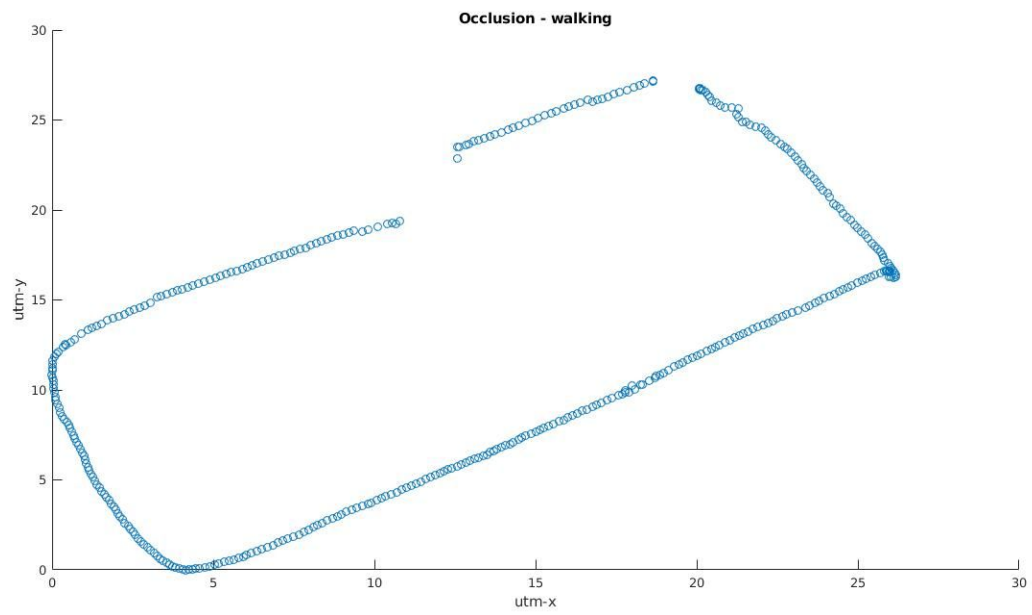
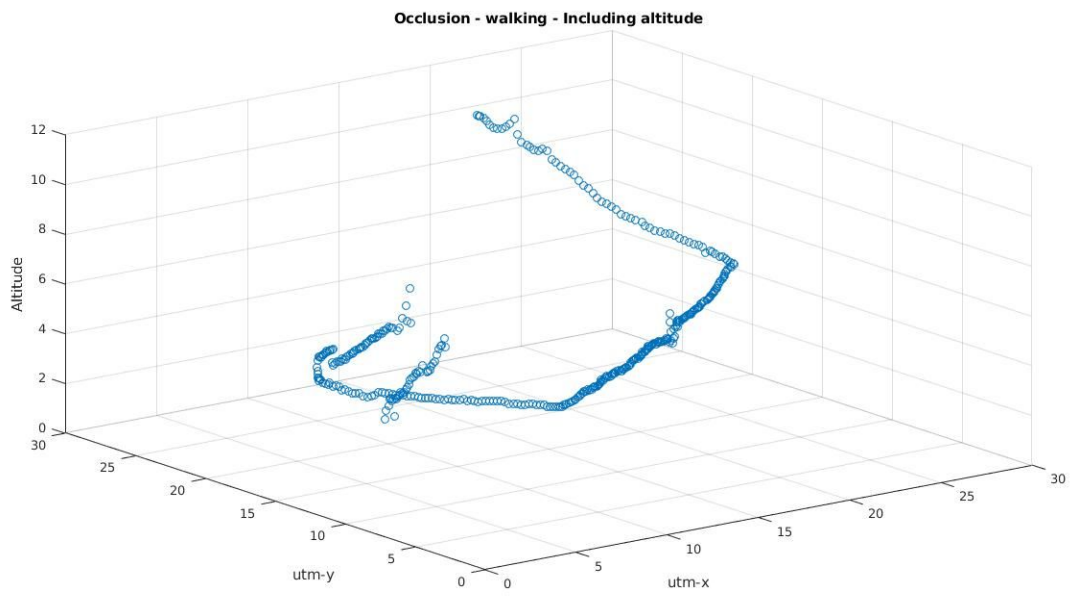


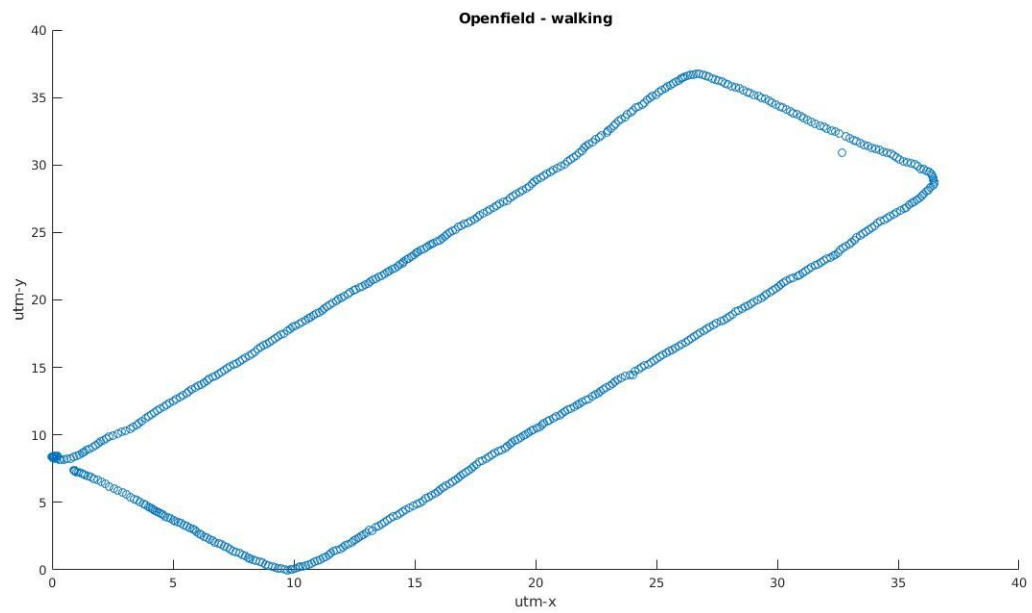
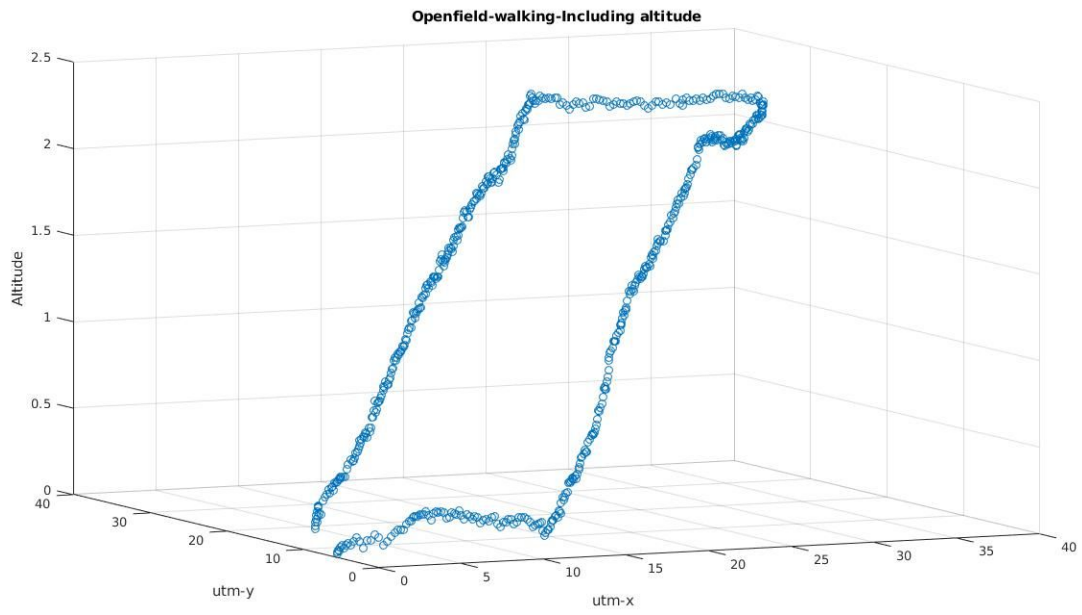
Similarly we can see really good precision in acquiring data when we move around a predetermined track in both open and slightly congested environments.

Noise Characteristics

When we plot the histogram of values, we get something resembling to white noise, that is a uniform spectra. Hence, the data can be assumed to not very noisy.







References:

[RTK-GPS](#)