

Memo guidance

- **State objectives**
- **Summarize how you got statistics for transducer and maneuver noise**
- **Show plots and relevant tables with statistics**
 - **Measurement of a single static point**
 - **Simulation of Moving Target – the key plots are the phase plane with uncertainty ellipse**
- **Discuss results**
 - **does the KF provide a better estimate for a single point static measurement vs taking multiple measurements – discuss in terms of variance.**
 - **How does the alpha-beta KF compare against ground truth with various sensors?**
 - **what kind of computational overhead is needed to do this in real time**

Memo must discuss the difference between the alpha filter (fixed location perturbed by wind) and alpha-beta filter - moving along a track.

Show key plots for both filters - do not show every plot in the summary memo just a few and summarize the general results.

Discuss what happens if you average all the measurements and compare to the result of the KF at the final value of n that you used..

Discuss how you got variance for measurements and state noise.

discuss that the kalman filter is a simple recursive equation with alpha or alpha beta computed off line for this particular case.

Also discuss the initial conditions used.

this memo should be no longer than 5-10 pages use tables and make sure you label graphs and graphs are at least two up $\frac{1}{4}$ page so they can be seen. Thick lines/dots.