Exercise - Fusion with Multiple Radars

Extend the previous exercise to include an additional radar. The additional radar should be located at $x = 600$ and $y = 800$, the first original radar should still be located at $x = -600$ and $y = 800$. Both the EKF and the UKF should be extended to perform central fusion (measurement to track fusion).

1. Make a plot of a single simulation run, showing the measurements from each radar (converted into Cartesian coordinates), the true target trajectory and the tracks for the EKF and UKF. Compare how the plots vary for angular measurement error standard deviation of 2, 4 and 6 degrees.
2. Perform a Monte Carlo analysis (like in the previous exercise) over 1000 runs. Produce a plot of RMSE in position against time for the measurements from each radar, EKF and UKF. Compare plot for angular measurement error standard deviation of 2, 4 and 6 degrees.
   Question: What does the track error depend on? Why does the error not depend strongly on the angular measurement error?