# Question #5

## Extended Kalman Filter (EKF)

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## Tuning Approach

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## Typical Simulation Plots









## Chi-Square Test Results





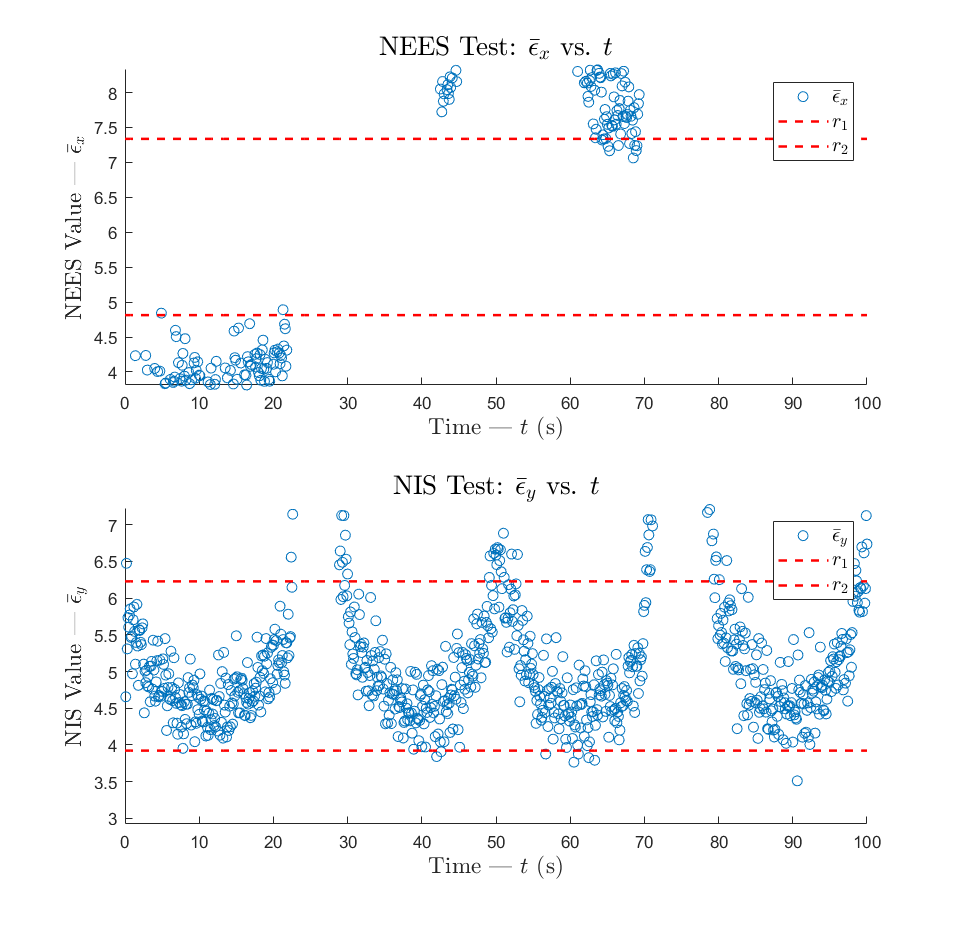


Figure 1 – NEES and NIS chi-square test for LKF Monte Carlo runs with Equations ( 3 )( 4 )( 5 ) applied

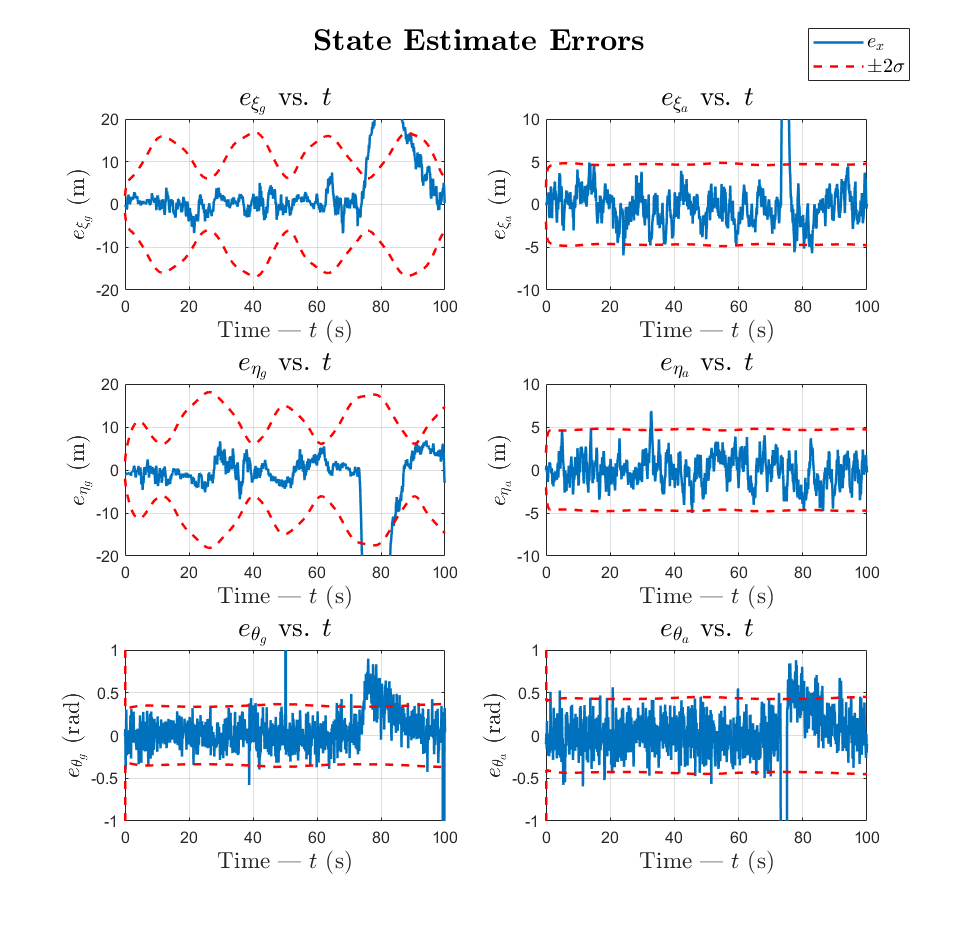


Figure 2 – State estimate errors and bounds of sample LKF Monte Carlo run with Equations ( 3 )( 4 )( 5 ) applied

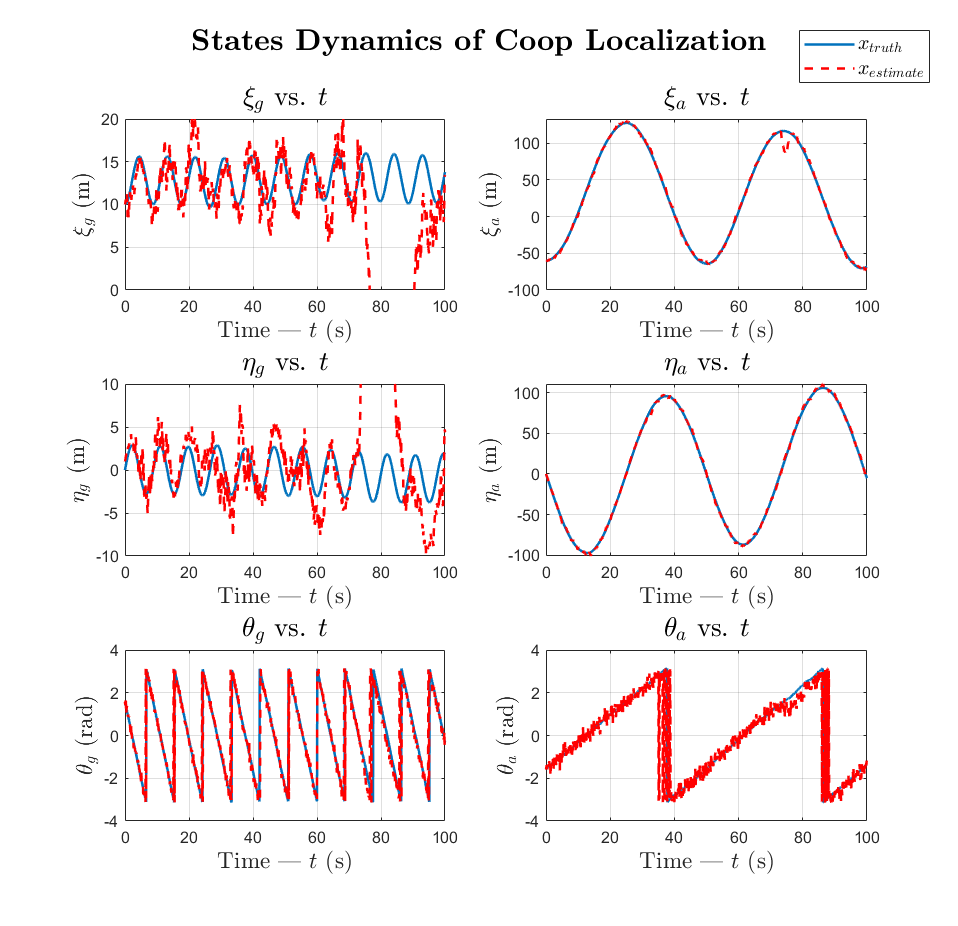


Figure 3 – State estimates and state ground truth of sample LKF Monte Carlo run with Equations ( 3 )( 4 )( 5 ) applied