

#### **12.990: Problem set 4**

Compare the performance of the extended Kalman Filter (EKF) and the ensemble Kalman filter (EnKF). Problem set 3 provided you with all the necessary tools to evolve the uncertainty forward for each filter, so I suggest you use the same system for this problem set as found on the Tools Section of this course. You may use a perfect model. Assess the filters using RMS error statistics (the RMS distance between the analysis or ensemble mean). Explore the sensitivity to the size of the observational uncertainty, the number of steps between observations, and the ensemble size (for the EnKF).

Hand in your code, a brief write-up of your results, and any necessary figures.