Read Me for Observer codes

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These codes are self contained – you do NOT need to run an mfile to set them up

**Observer\_particle.slx** – duplicates the observer shown in the lecture notes – you should try to make the eigenvalues of the observer faster and see how the estimates change. Also try different initial conditions

O**bserver\_particle\_dist.slx** – is the same as Observer\_particle.slx however the input to the top (system includes a disturbance. The observer does not see this disturbance. Tracking is very poor – however if you set the gains significantly faster the observer will be able to track the system.

**Observer\_particle\_reduced.slz** – implements the reduced order observer, ROO, for the particle in z coordinates and then transforms to original states. . Only the velocity state is estimated see notes Week 6 page 6-9 – numbering at bottom. This simulation includes two instances of the ROO – the first has an eigenvalue at -1 and the second at -10 results are clearly better with the latter eigenvalue selection

**Reduced\_order\_compoutations.pdf** – show the computations for the z coordinate observer used above as well as converting to the original coordinates.