

HW4

Consider a missile guidance system which is shown in the example of Chapter 5.1 in textbook. Some weighting matrices of the system are selected as :

$$Q = \begin{bmatrix} 0.01 & 0 & 0 \\ 0 & 0.02 & 0 \\ 0 & 0 & 0.02 \end{bmatrix}, \quad R = \begin{bmatrix} 0.01 & 0 & 0 \\ 0 & 0.02 & 0 \\ 0 & 0 & 0.02 \end{bmatrix}$$

Moreover, a sinusoidal target and initial conditions Case 2 has been chosen.

Please follow the design procedure in Chapter 5.1 in textbook to finish the design of fuzzy H_∞ guidance law by Matlab.

Please sketch the trajectories of relative velocities and relative distances between missile and target. Please attach figures of these trajectories in your report.