

Homework # 7

Due: 11/27/2006

1. (30%) 13.2
2. (70%) Project related:
 - (a) Choose 5 operating points in the workspace, find the linearized plants, synthesize a single plant for the control design, and characterize the plant uncertainty either as an additive uncertainty or input (or output) multiplicative uncertainty.
 - (b) Design a stabilizing controller by solving an H_2 weighted mixed sensitivity minimization problem as in 13.2. Choose W_1 and W_2 based on the tracking control objective and robustness with respect to the plant uncertainty.
 - (c) Evaluate the nominal tracking performance of the controller.
 - (d) Evaluate the robustness with respect to the plant uncertainty.