

**Problem:**

You are given a set of open-loop data obtained by sending a random signal of amplitude  $\pm 1$  to the input of a process. The data is available on the course website as `datahw1.mat`. It contains the input  $u$  and the output  $y$ . Note that the system is low order, has a bit of delay and is corrupted by noise.

1. Using the Matlab system identification toolbox, develop a satisfactory model of the process from those data. Justify your choice of methods, model structure and chosen model.
2. Repeat the above, but this time using a recursive implementation of your estimator of choice. Show time plots of the recursive parameter estimates thus obtained. Attach your \*.m file.