

Notes in ECEN 5448

Zachary Vogel

April 6, 2016

state feedback design

current estimator is similar to a prediction estimator, but with the term L_p replaced with ΦL_c . If you make a prediction estimator all you should have to do is find:

$$L_c = \Phi^{-1} L_p$$

current estimator error dynamics:

$$\tilde{x}(k) = x(k) - \bar{x}(k)$$

$$\tilde{x}(k+1) = (\Phi - \Phi L_c H) \tilde{x}(k)$$

Observability matrix O_o doesn't change by replacing H_c with $H\Phi$.
reduced order estimator where your output is one of the states, so you don't need to estimate it.
need to use this for furuta pendulum.