Notes in ECEN 5448

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review of exam

review
god I suck, should have gotten a 100 on this exam.

learn to sketch a root loci for every problem.
I fucked up real bad

state space design

det(zI-ϕ)=0 are the poles and characteristic equation.

start with 0 reference input, take a distrubance or initial condition and drown it out to zero.
Can we simply use linear state feedback.

can only do this if it is controllable. $detE = \left[\Gamma\Phi\Gamma \dots \Phi^{n-1}\Gamma\right]$.

Controllability Gramian.

Controllable Canonical form, easy to solve for state-feedback vector.
super nice for this tpe of problem.
doing a state space transform to canonical form with T, and finding K_c that makes it controllable, we can find the original $K = K_c T^{-1}$.