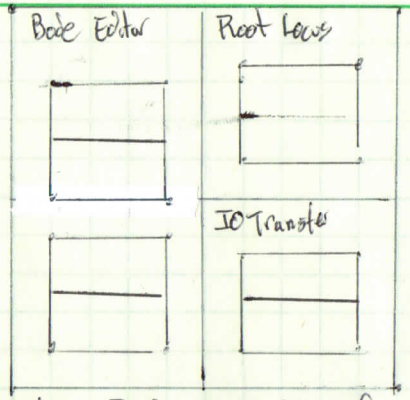
ETNG 307

MAR 14 2018

Matlab -> sisotool

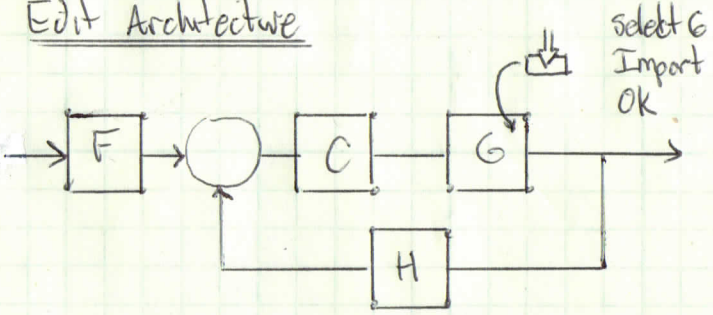
Matlab

```
s = tf('s')
G = 1/((s+1)*(s+2)*(s+10))
sisotool
```



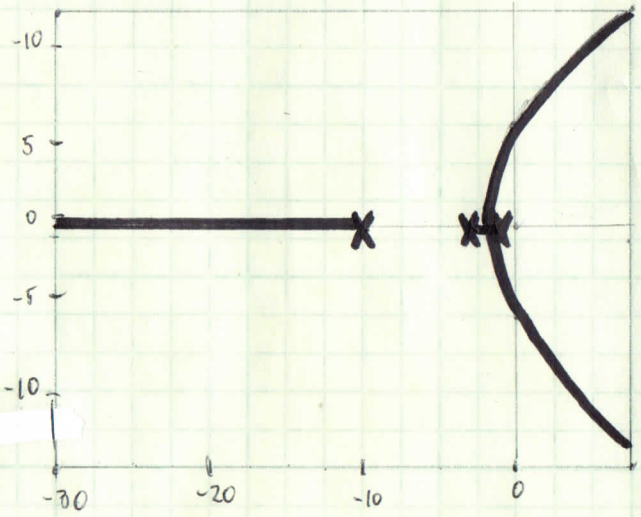
- Close Bode & IO Transfer
- Double Click PIL title bar

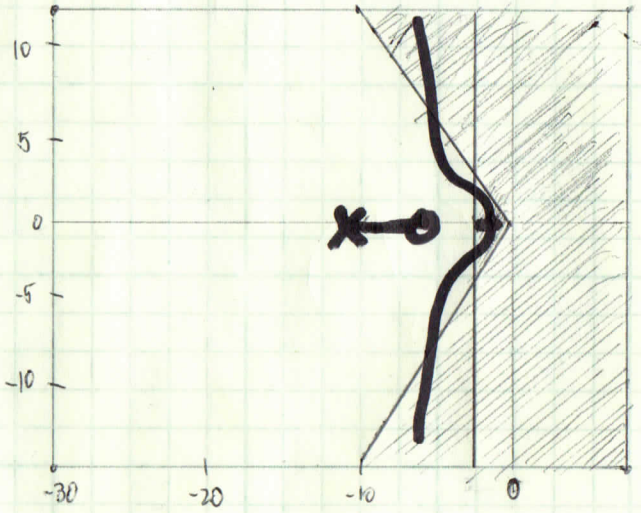
Edit Architecture



Data Browser -> C (double click)
Adjust gain C = 80
Zero location = -5

Root Locos





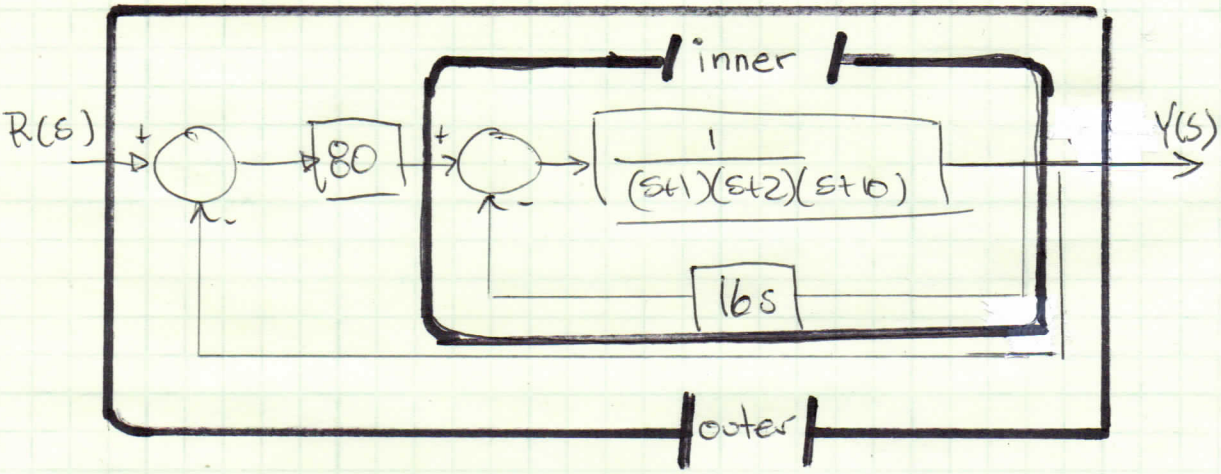
Right mouse -> Design Requirement -> New
Settling time 1.95
% overshoot 10

Right mouse -> Add Pole/Zero -> Real zero
add @ -5

$$C(s) = 80(1+0.2s)$$

Verify Design

$C(s) = 80(1+0.2s) =$ 80 + 16s kp=80 kd=16



Continue from previous Matlab

Kd = 16

Kp = 80

inner = feedback(G, Kd*s)

outer = feedback(Kp*inner, 1)

stepinfo(outer)

step(outer)