

EENG307: Designing Controllers Using Bode Plots, Part 2¹

Lecture 34

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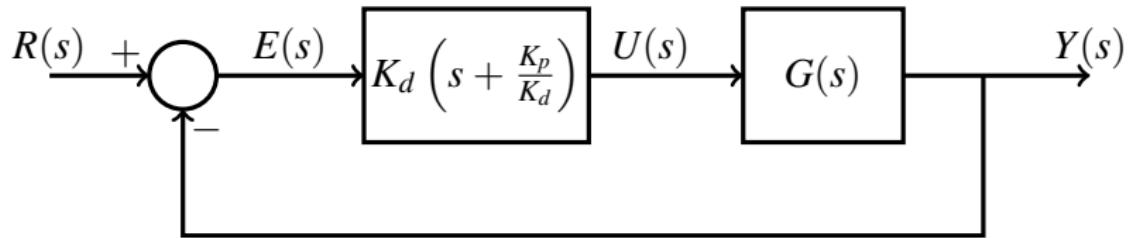
Department of Electrical Engineering
Colorado School of Mines

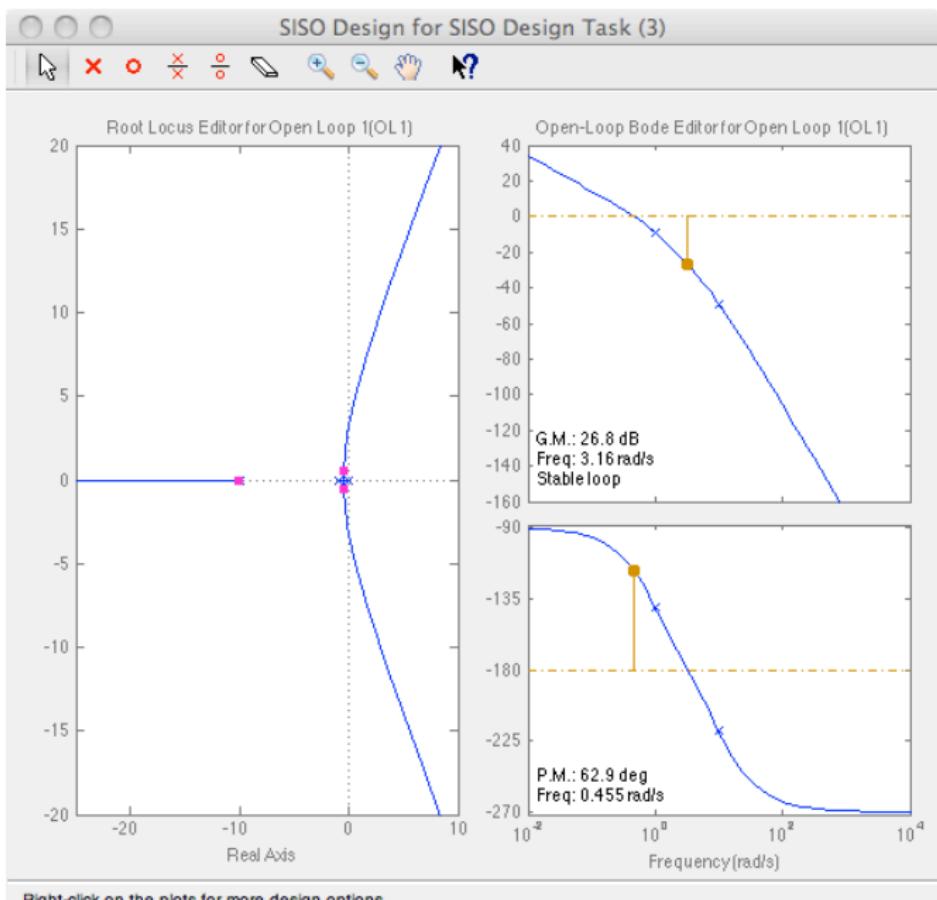
Fall 2022

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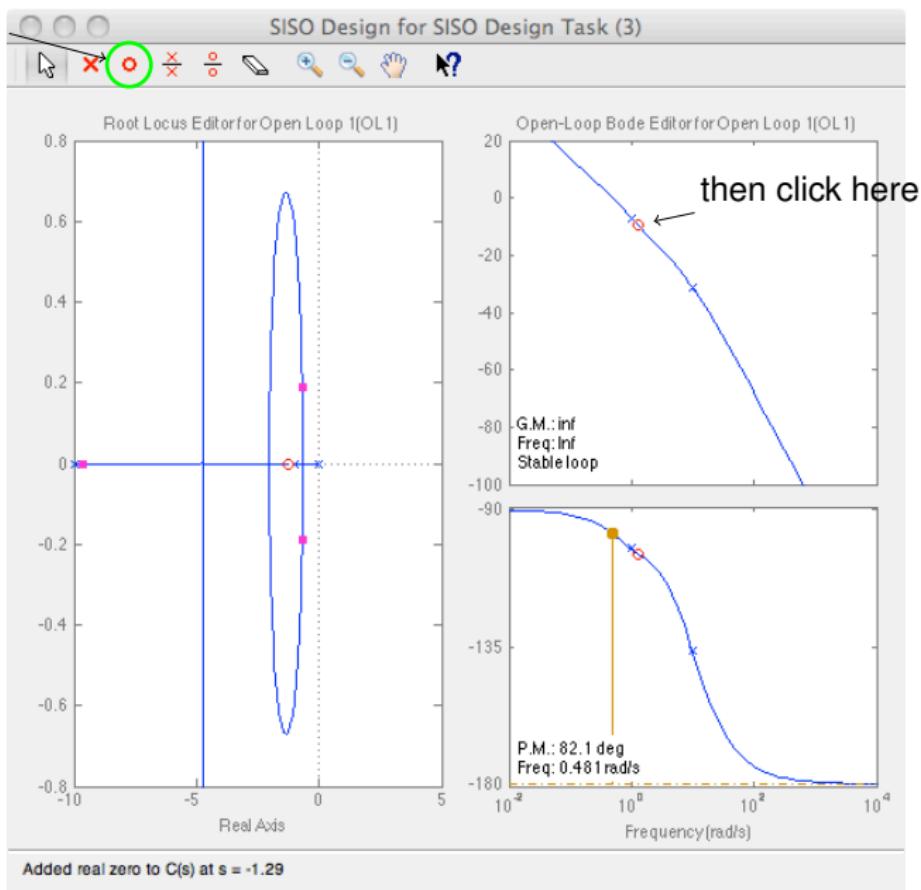
²Developed and edited by Tyrone Vincent and Kathryn Johnson, Colorado School of Mines, with contributions from Salman Mohagheghi, Chris Coulston, Kevin Moore, CSM and Matt Kupilik, University of Alaska, Anchorage

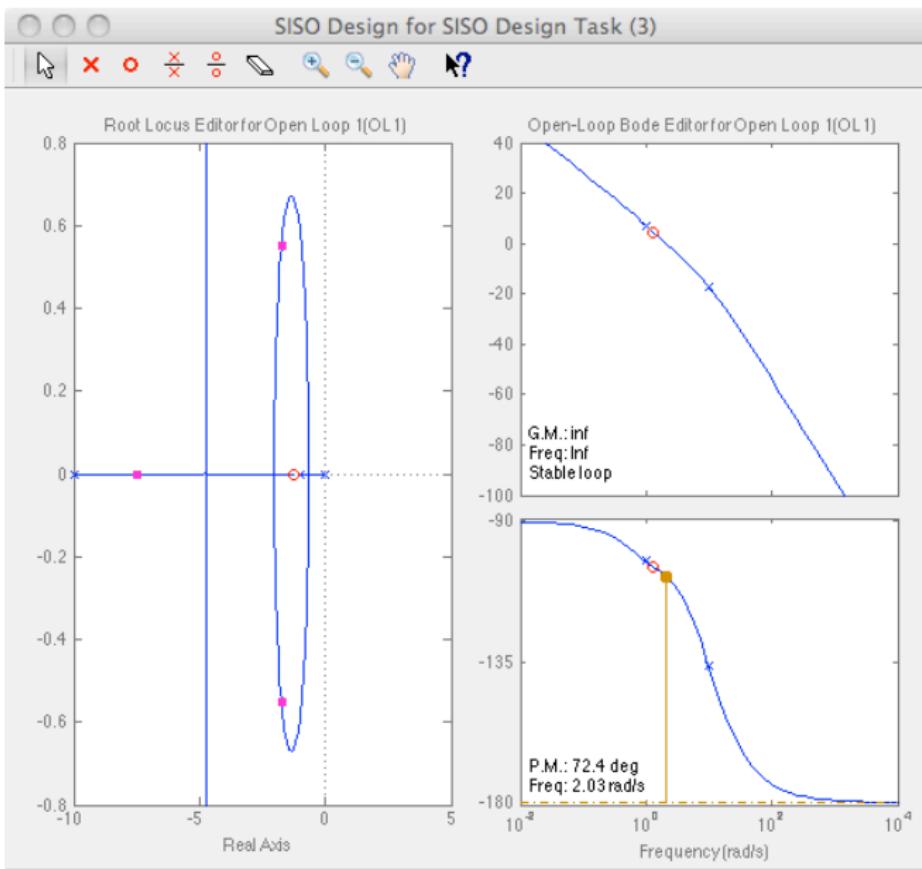
PD Control

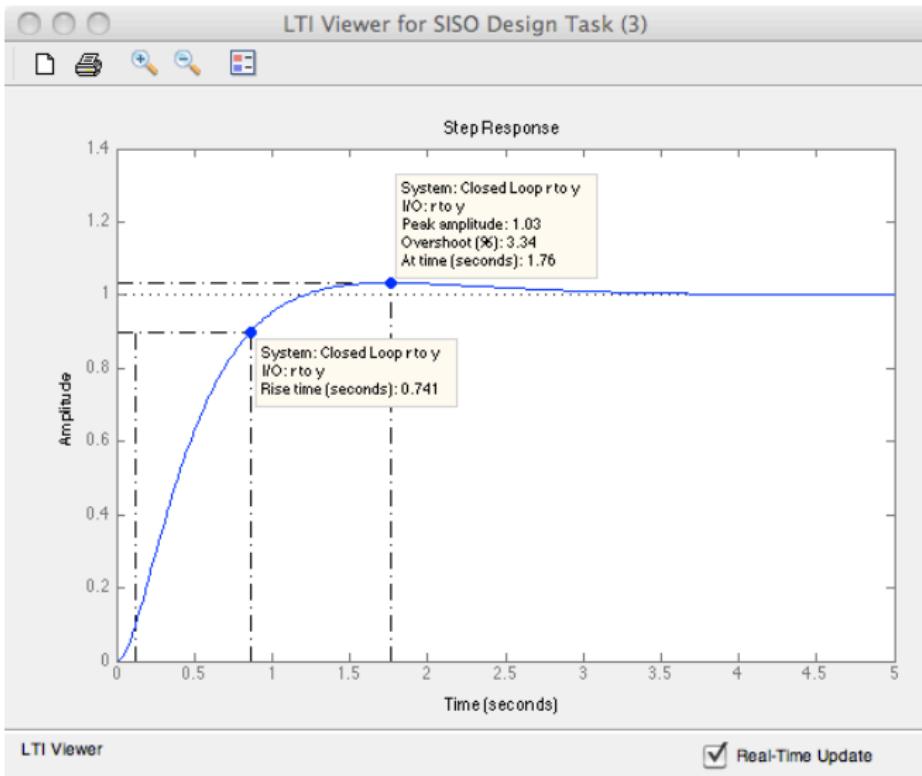




click here







Control and Estimation Tools Manager

Workspace SISO Design Task Design History

Architecture Compensator Editor Graphical Tuning Analysis Plots ►

Compensator

$$C = 5.0299 \times \frac{(1 + 0.78s)}{1}$$

Pole/Zero Parameter

Dynamics

Type	Location	Damping	Frequency
Real Zero	-1.29	1	1.29

Right-click to add or delete poles/zeros

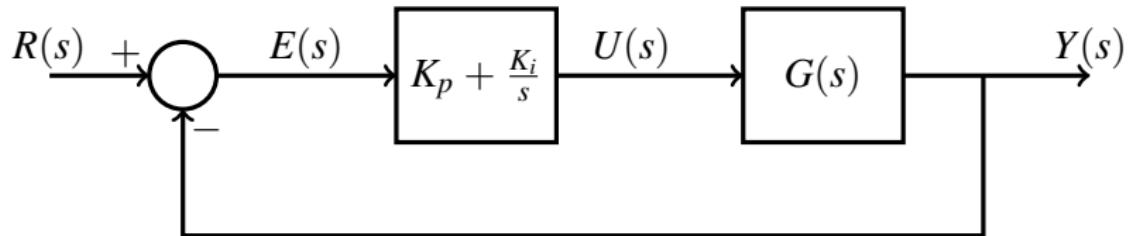
Edit Selected Dynamics

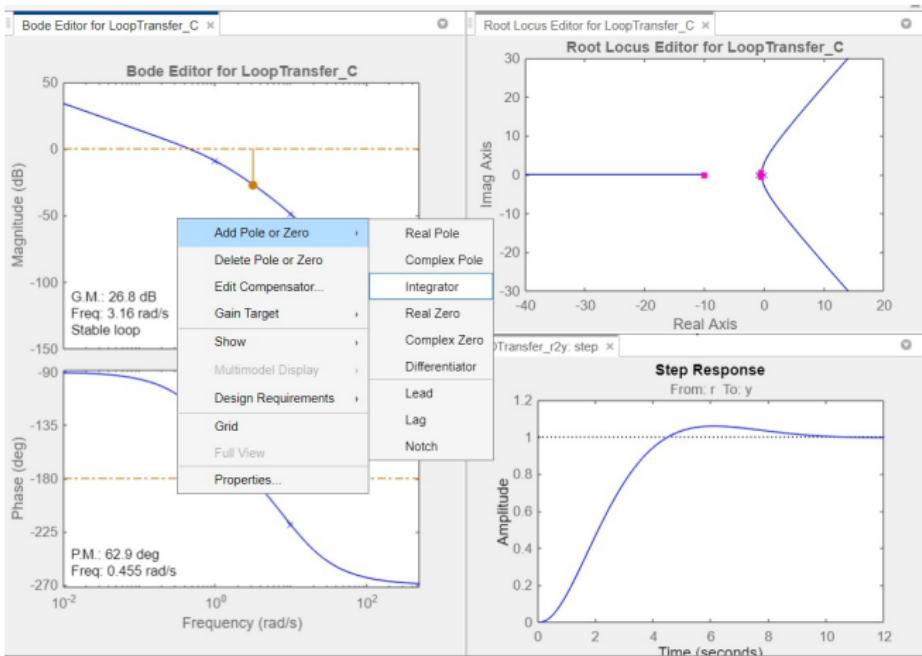
Select a single row to edit values

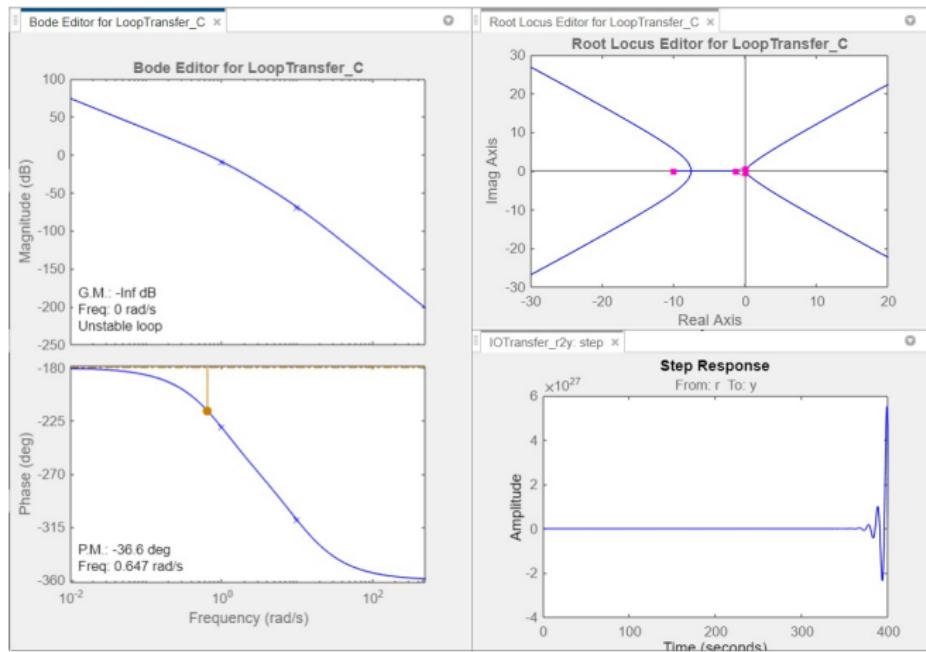
Show Architecture Store Design Help

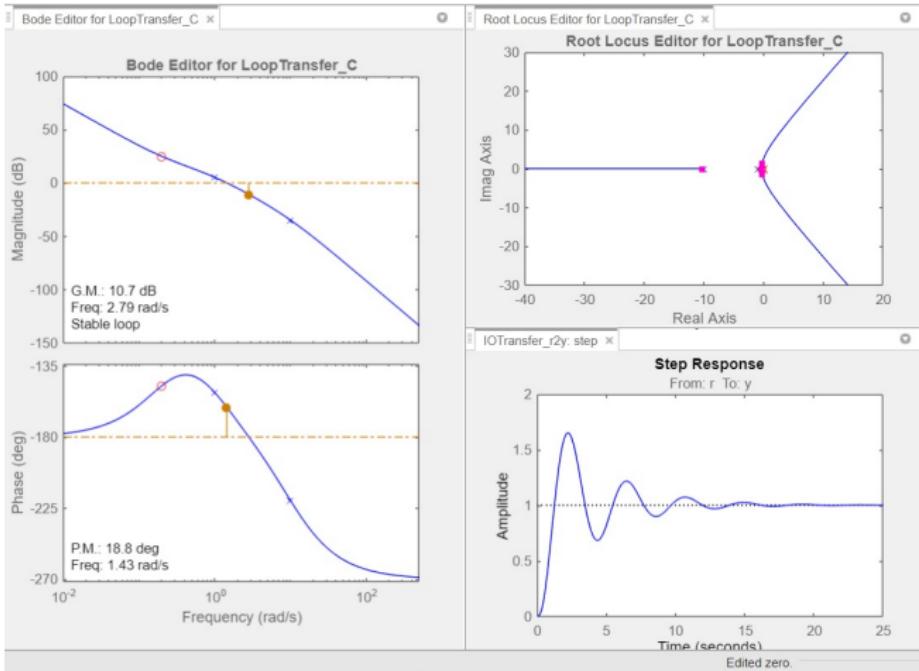
SISO Design Task Node

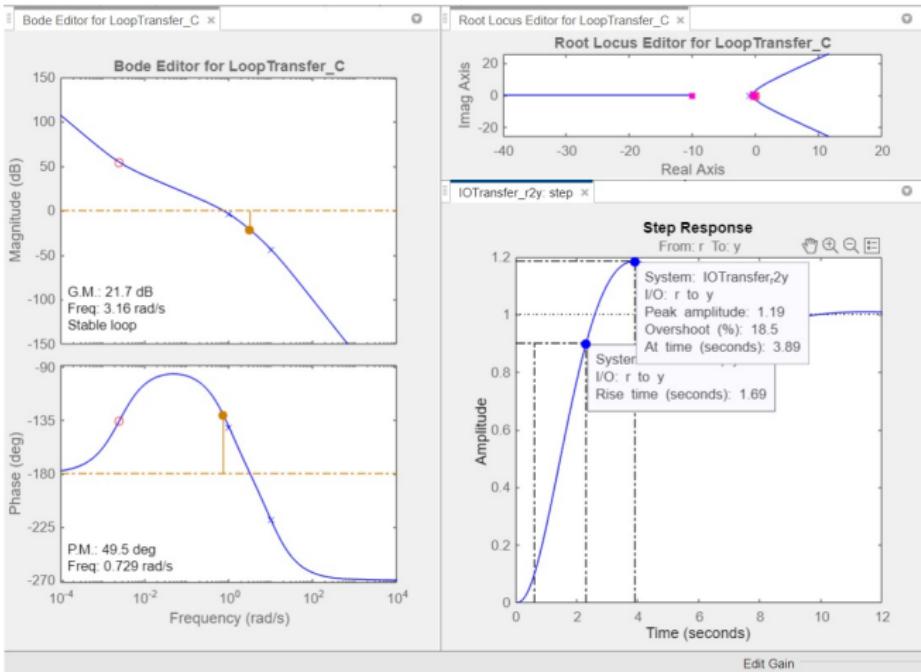
PI Control

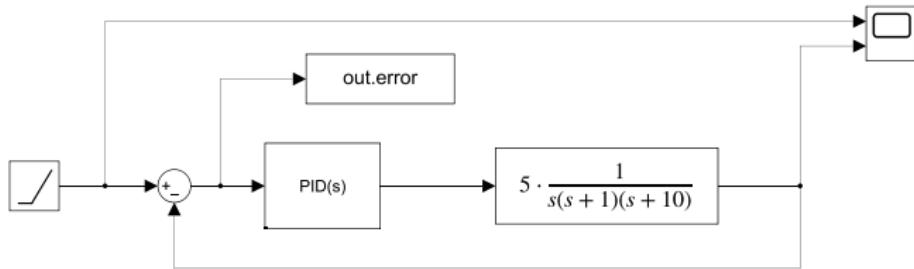


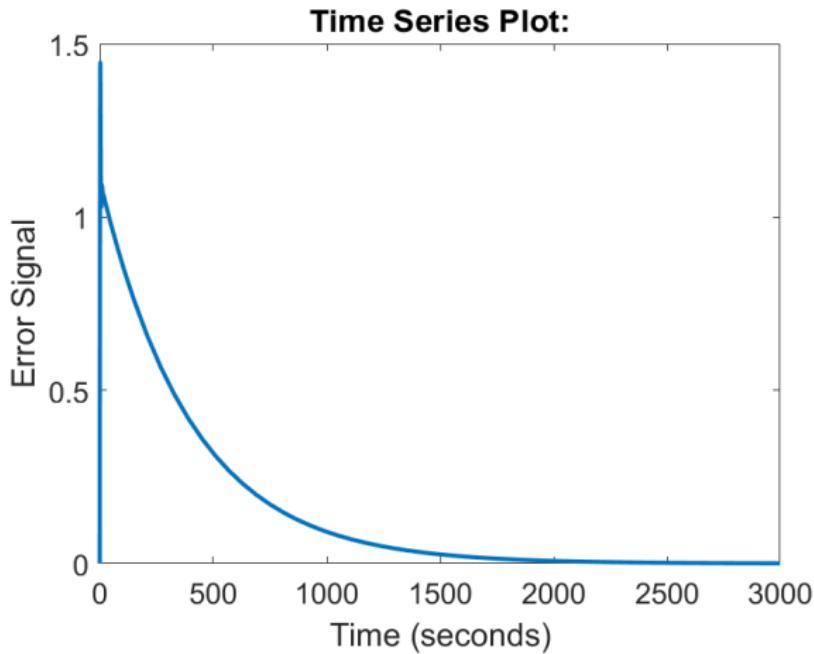












Controllers And Fixed Blocks

- F
- C
- G
- H

Designs

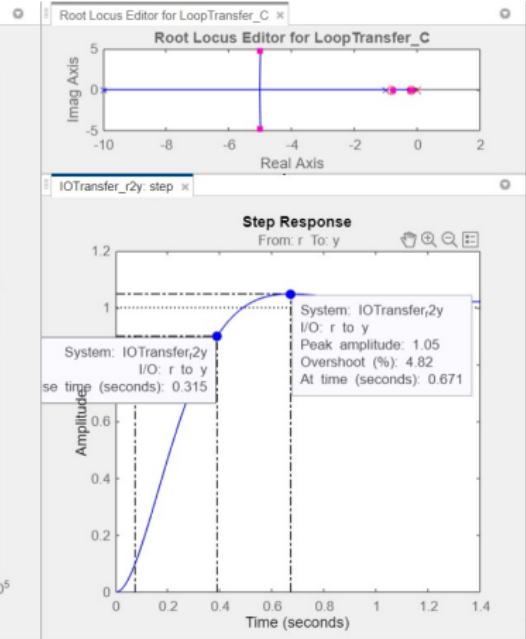
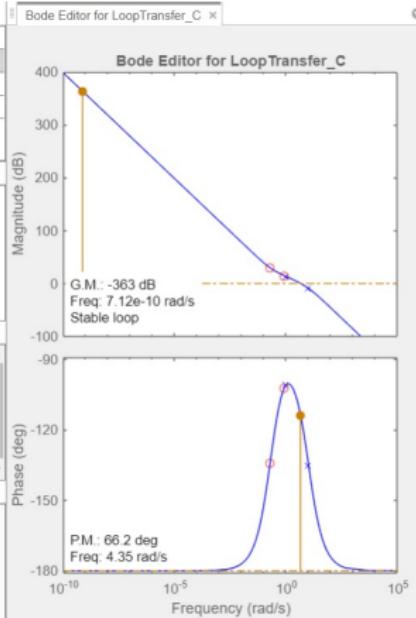
Responses

- LoopTransfer_C
- IOTransfer_r2y
- IOTransfer_u2u
- IOTransfer_dy2y
- IOTransfer_n2y

Preview

Tunable Block
Name: C
Sample Time: 0
Value:
9.561 ($s=0.1887$) ($\theta=0.8248$)

s



Open-loop magnitude plot. Left click and move this curve up or down to adjust the gain of C.