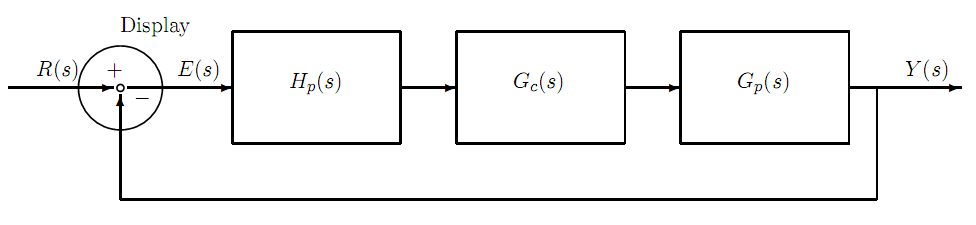
# SYDE 352: Introduction to Control Systems

# Design Project 2

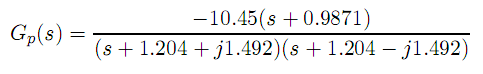
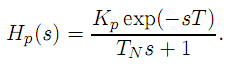
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# Introduction

The purpose of the design project is to design a control Gc(s) element that will yield satisfactory closed loop system performance is needed between the aircraft dynamics and the pilot of an airplane during the night provided that the activity can be modeled by the closed loop transfer function:



where,

### Requirements and Objectives

* The closed loop system is table and has a gain margin of 10 dB ± 3 dB and a phase margin of 45◦ ± 5◦.
* The tracking error is minimized for all input signals that have frequencies less than the crossover frequency.
* The sensitivity of the dominant closed loop poles to variations in TN is minimized.

### Assumptions

* The exp(-sT) is approximated using eqn. 5-112 in the text book
* T = 0.2 s
* Kp = 20
* TN lies within the range of 0.1 – 0.2, initially assume TN = 0.1

# Derivation and Justification

Insert stuff here…

# Discussion

### Observations

Insert stuff here…

# Final Design

Insert stuff here…

# Scope

Insert stuff here…

# Appendix A

Insert stuff here…