

steady.exe Exercises for Chapter steady

Exercise steady.hypnomancy

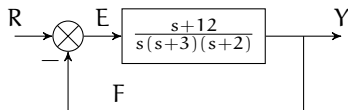
If a control system responds to a command $r(t) = 1$ such that its output $y(t)$ quickly settles near 0.95, what can be said about the control system's stability, steady-state response, and transient response?

Exercise steady.nap

Given the system show below with an input $u(t) = 0.2tu_s(t)$, find:

_____/10 p.

1. the system type,
2. the correct static error constant, and
3. the steady state error.



Root locus analysis

The root locus is a graphical technique for designing for closed-loop transient response from open-loop knowledge—and some cleverness.¹ A system's transient response is dominated by its poles. For a system with feedback, solving for these closed-loop poles is challenging, as we will see in [Lec. rlocus.def](#). Due to the use of complex analysis in this chapter, it is recommended that the reader review [Appendix A.01](#) before proceeding.

1. The root locus technique was developed by Evans (1950).