SFWR ENG 3DX4 Summary

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Course: SFWR ENG 3DX4

Math objects made using MathType; graphs made using Winplot.

Table of Contents

Note: refer to my previous summary. I may review to clarify or correct, but mostly I will omit those things.

Introduction to Systems

Systems can be represented by **block diagrams** to make it easier to marginalize the different parts of the systems.

Laplace

Useful for…

Time begins when your signal begins

$$h(t)=\begin{cases}0, & t<0\\ 1, & t\geq 0\end{cases}$$

Initial conditions:

- $c(0)$

Time domain (t): variables are lower case, e.g. $f(t)$
Frequency domain (s): variables are upper case, e.g. $F(s)$

Transfer function:

When doing the inverse Laplace, it's useful to break your fractions up so that you can

Strictly Stable: it will eventually get back to the initial position
Marginally Stable:

Unstable: it will progressively get worse

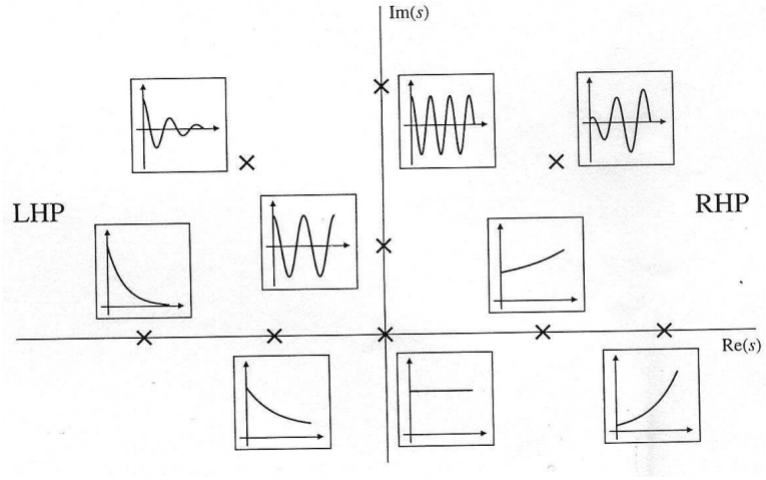

Figure 2.5 from Dorf and Bishop, *Modern Control Systems (10th Edition)*, Prentice-Hall, 2004.