

Properties

scaling & shifting
convolution / deconvolution
system properties

memoryless, linear, time-invariant, causal, stable
LTI: complex exponentials are eigenfunctions!
impulse response
frequency response $e^{j\omega_0} \rightarrow H(j\omega_0)e^{j\omega_0}$

DTFS, CTFS, DTFT, CTFT

- * properties
- * Parseval's
- Bode plots

implementation of complex filters

basic sampling

Sampling

aliasing \rightarrow why?

Nyquist rate \rightarrow why?

up/downsampling & effects in time & frequency

zero order hold

first order hold

discrete time processing of CT signals (6.3.1)

Modulation

* AM

FM

PM

PAM

Laplace, Z-transforms

regions of convergence

- right sided, left sided, two sided, causality, stability, $\tilde{F}Z$ existence, etc

properties

- initial, final value thms

pole-zero plots

geometric evaluation of $\tilde{F}Z$

differential/difference eq's

partial fractions

Simple feedback

differential/difference eq's

or system frns from block diagram

root locus plots

Tentative layout:

≈ as long as midterm

(short answer + 3 longer)

Tips

Know your properties and transforms

Recognize the basic ones on sight

If you do every transform by

brute force, you will NOT FINISH

know your basic trig values (unit circle!)