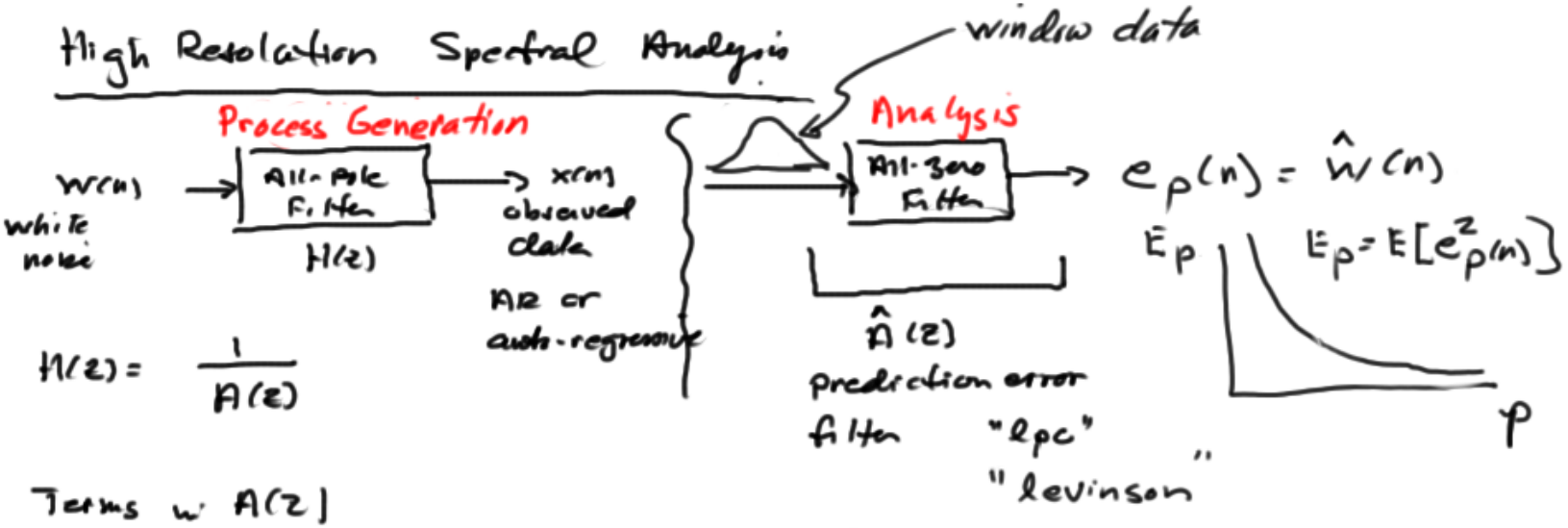
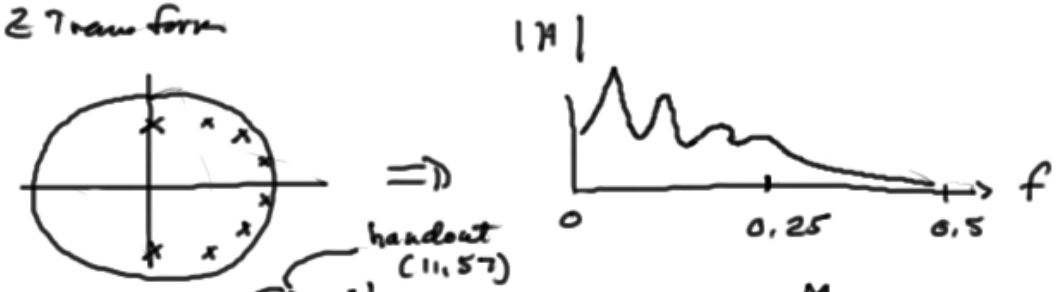
High Resolution Spectral Analysis



Terms w A(z)

$$\frac{(z-z_i)(z-z_i^*)}{z^2}$$

Polynomial coefficients of A(z)
from "poly" - implement all pole filter
using "filter"



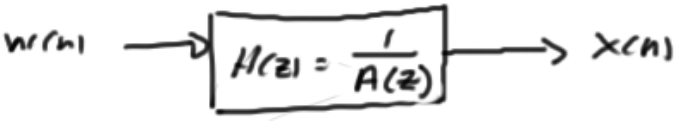
handout (11,57)

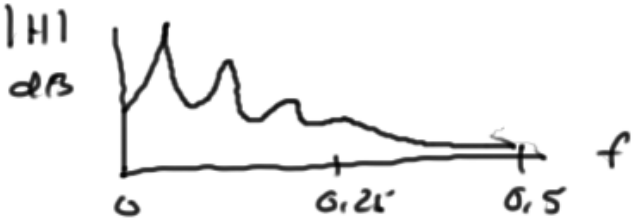
$$y(n) = \sum_{k=1}^{N} a_k y(n-k) + \sum_{k=0}^{M} b_k x(n-k)$$

Oppenheim et al (6.26)

High Resolution Spectral Analysis

Autoregressive Process Generation:

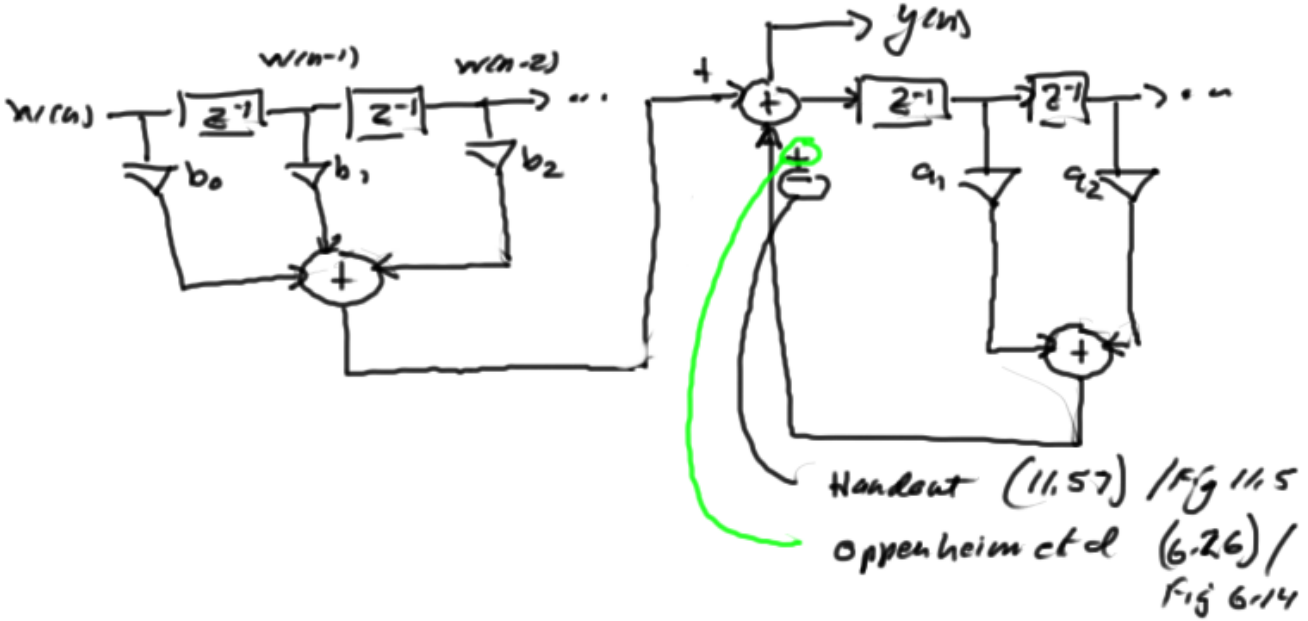




"filter" implements IIR structure in direct form (see Oppenheim et. al Ch. 6.3 - note sign difference)

$$10\log \frac{1}{|A(k)|^2} = 10\log |H|^2$$

$$z = e^{j\omega}, \quad \omega_k = \left(\frac{2\pi}{N}\right)k$$

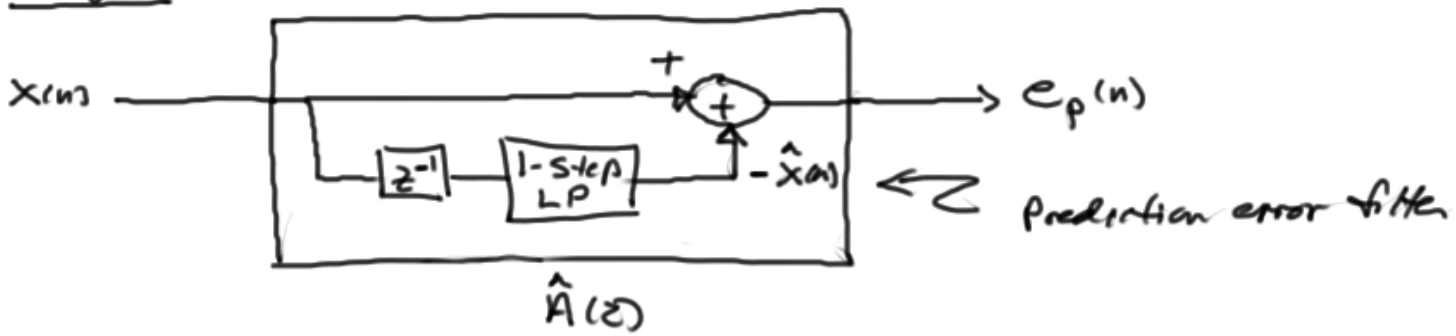


Handout (11.57) / Fig 11.5

Oppenheim et al (6.26) / Fig 6.14

High Resolution Spectral Analysis

Analysis



LP = linear predictor

window data going into "lpc"