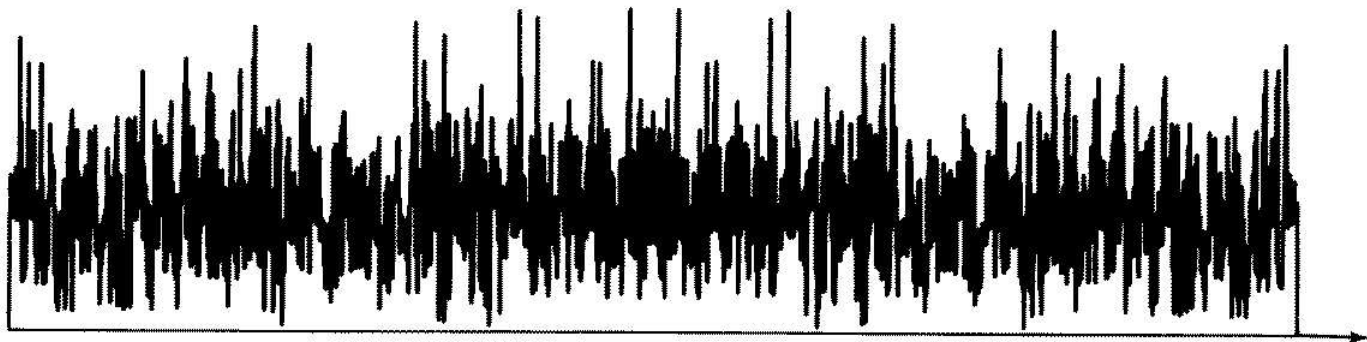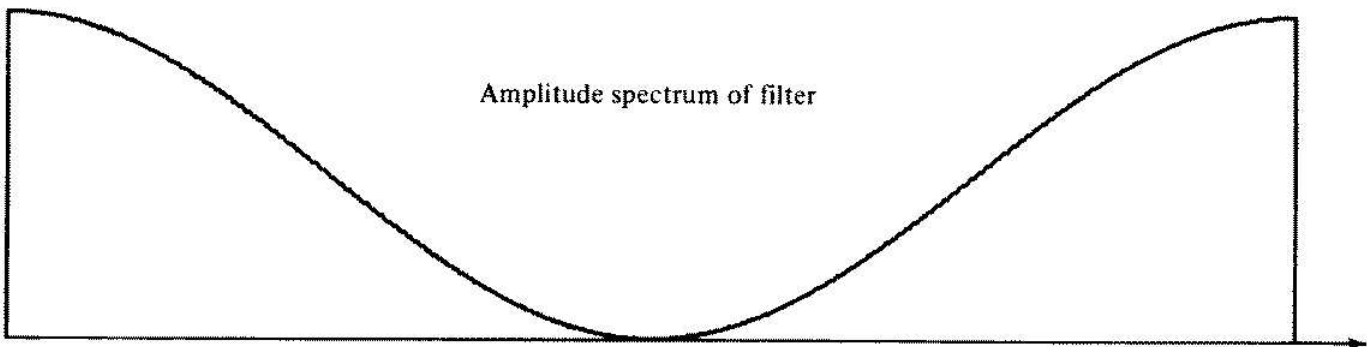Amplitude spectrum of white noise sample

Amplitude spectrum of filter

Unsmoothed power spectral estimate of data sample