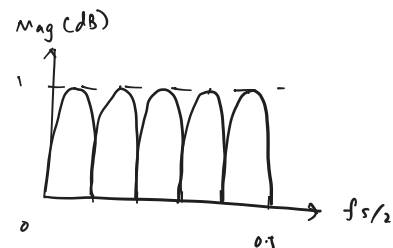
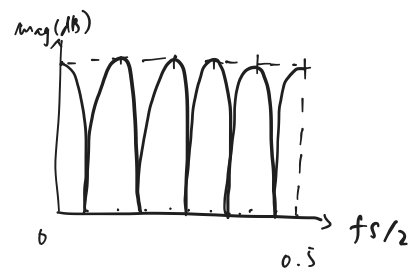


1. Types

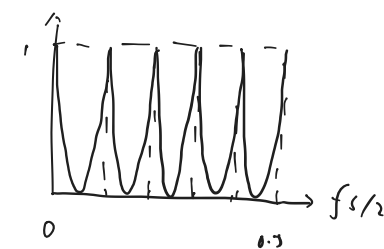
① Notch Type I  $H(z) = \frac{b(1 - z^{-n})}{1 + az^{-n}}$



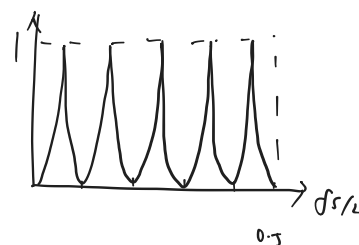
② Notch Type II  $H(z) = \frac{b(1 + z^{-n})}{1 + az^{-n}}$



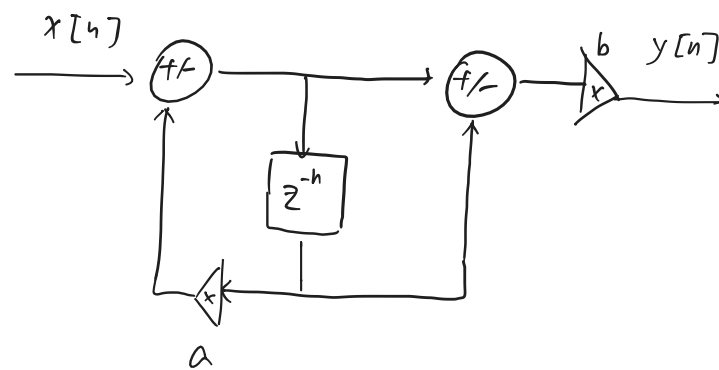
③ Peak Type I  $H(z) = \frac{b(1 + z^{-n})}{1 - az^{-n}}$



④ Peak Type II  $H(z) = \frac{b(1 - z^{-n})}{1 + az^{-n}}$



2.  $H(z) = \frac{Y(z)}{X(z)}$



3. Characteristic Parameters

$f_0$ : center frequency of notch

$A_b$ : dB. magnitude squared Response = -3 dB

$\Delta f$ : frequency bandwidth at  $A_b$

