

Concept Question 9-8: Why would you ever use an IIR filter, when FIR filters have no phase distortion and are guaranteed to be stable?

Because IIR filters can be more selective than FIR filters. Compare Fig. 9-20a (FIR) with Fig. 9-20b (IIR).

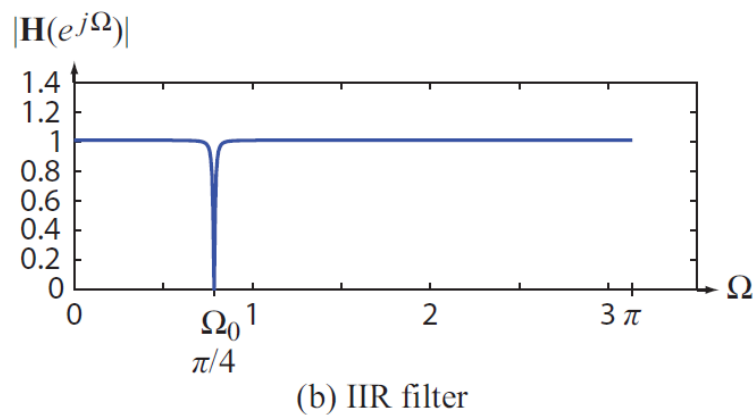
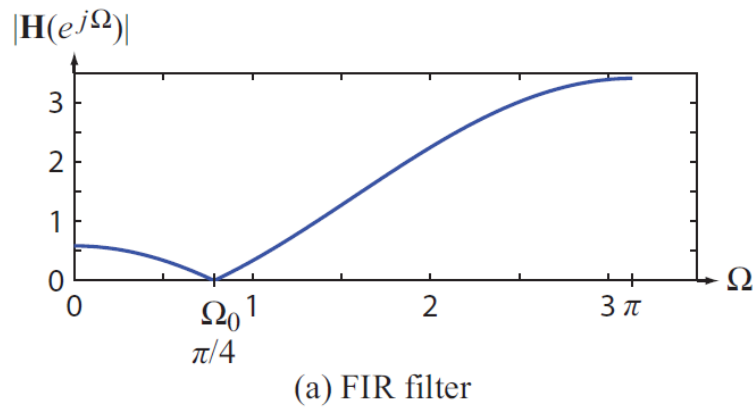


Figure 9-20: (a) FIR and (b) IIR notch filters, both designed to eliminate a sinusoid with $\Omega_0 = \pi/4$.