
31606 Signals and Linear Systems in discrete time

Hands on 9
Group 1

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How finite should it be?

i) Like a hot knife through a Butterworth We are asked to design a filter meeting the following requirements:

- Passband from 0.2 to 0.3
- Stopbands from 0 to 0.1 and 0.4 to 1
- Ripples in passband no greater than 2dB
- Stopband attenuation min. 100dB

While the headline does imply that a butterworth filter could be used, this does not allow us to utilize that ripples in both the stop and passband are accepted.

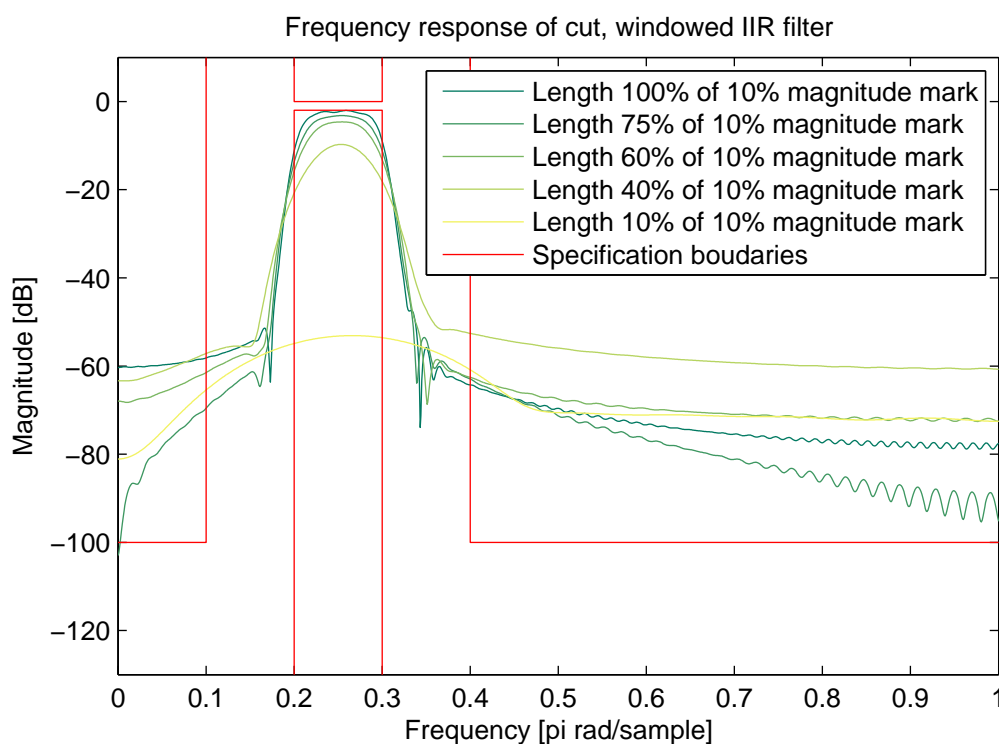


Figure 1: blablabla

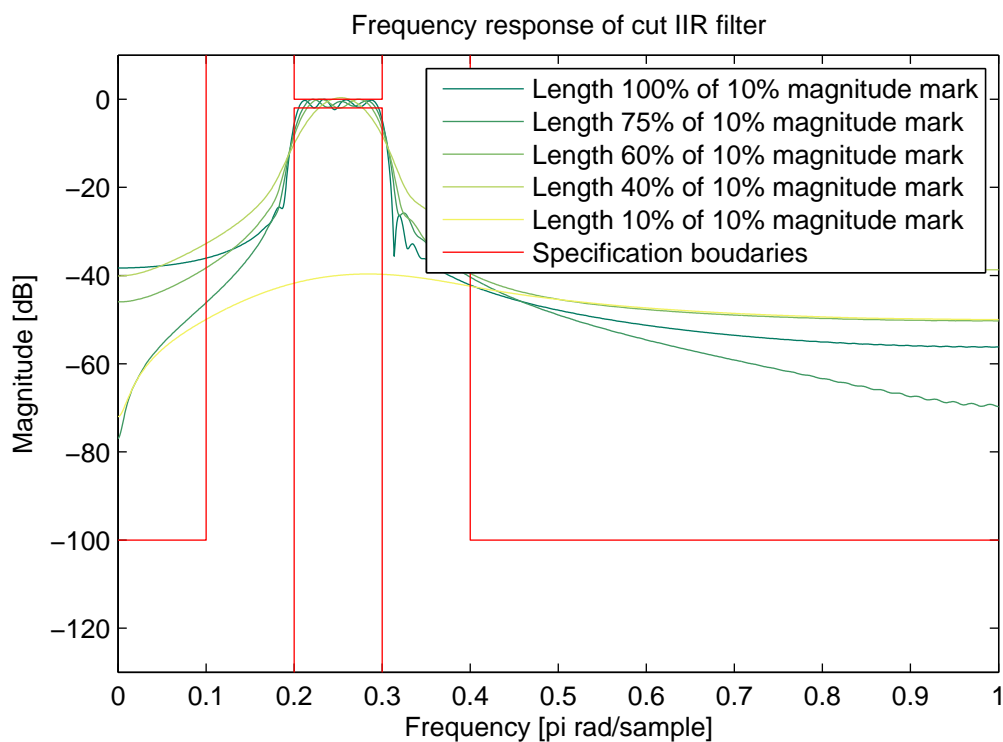


Figure 2: blablabla

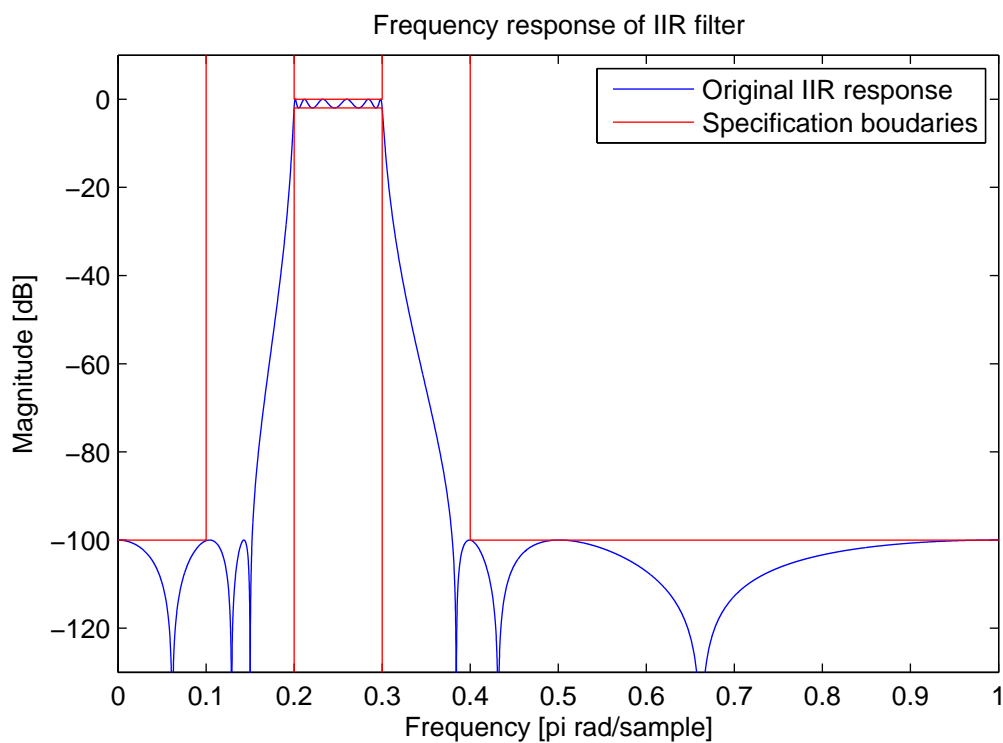


Figure 3: blablabla

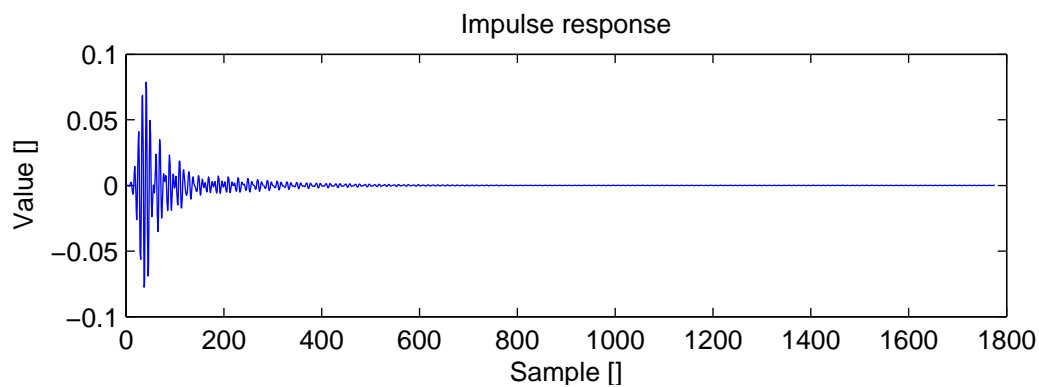


Figure 4: blablabla

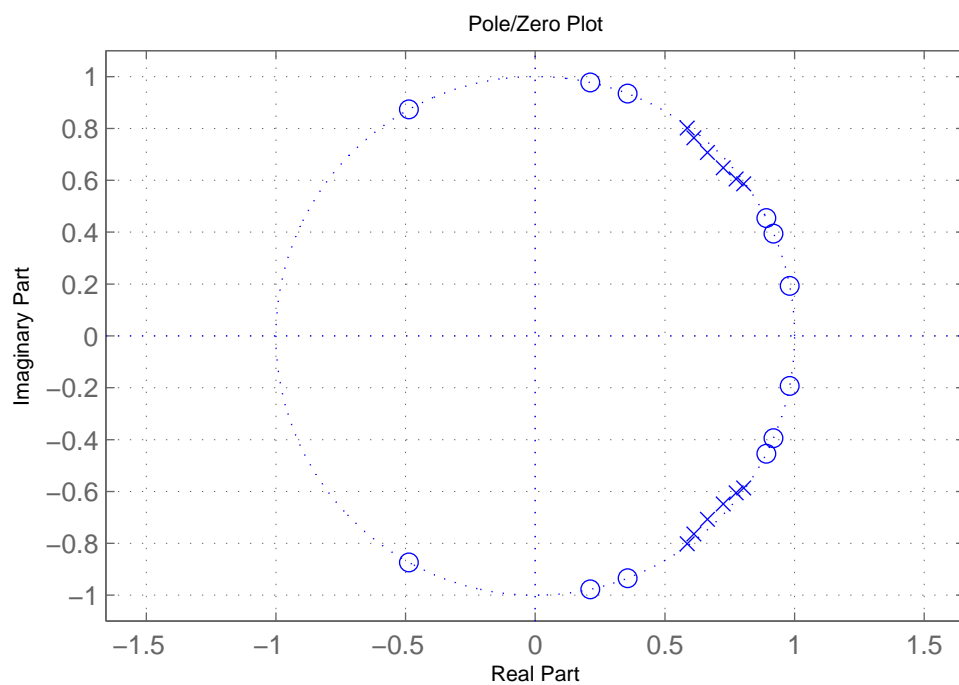


Figure 5: blablabla