

Frequency Response Example

An LTI system has impulse response

$$h[n] = \delta[n] + 3\delta[n - 1] + \delta[n - 2].$$

- Find the frequency response $H(e^{j\hat{\omega}})$
 - In particular find $H(e^{j\hat{\omega}})$ when $\hat{\omega} = \pi/4$
 - Is $H(e^{j\hat{\omega}}) = 0$ for any $\hat{\omega} \in [0, \pi]$?
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