

1 Circular Ideal Lowpass Filter Tutorial Exercise

5. Calculate the impulse response of the ideal lowpass filter with frequency response:

$$H(\omega_1, \omega_2) = \begin{cases} 1, & \omega_1^2 + \omega_2^2 \leq R^2 < \pi^2 \\ 0, & \text{otherwise} \end{cases}$$