

## Filter Wizard

Filter Wizard Design

Created on 09/21/2025



# Filter Wizard Design Report

Filter Requirements for Low-Pass, 2nd order Chebyshev

Specifications: Optimize: Specific Parts; +Vs: 5; -Vs: -5

Gain: 0 dB

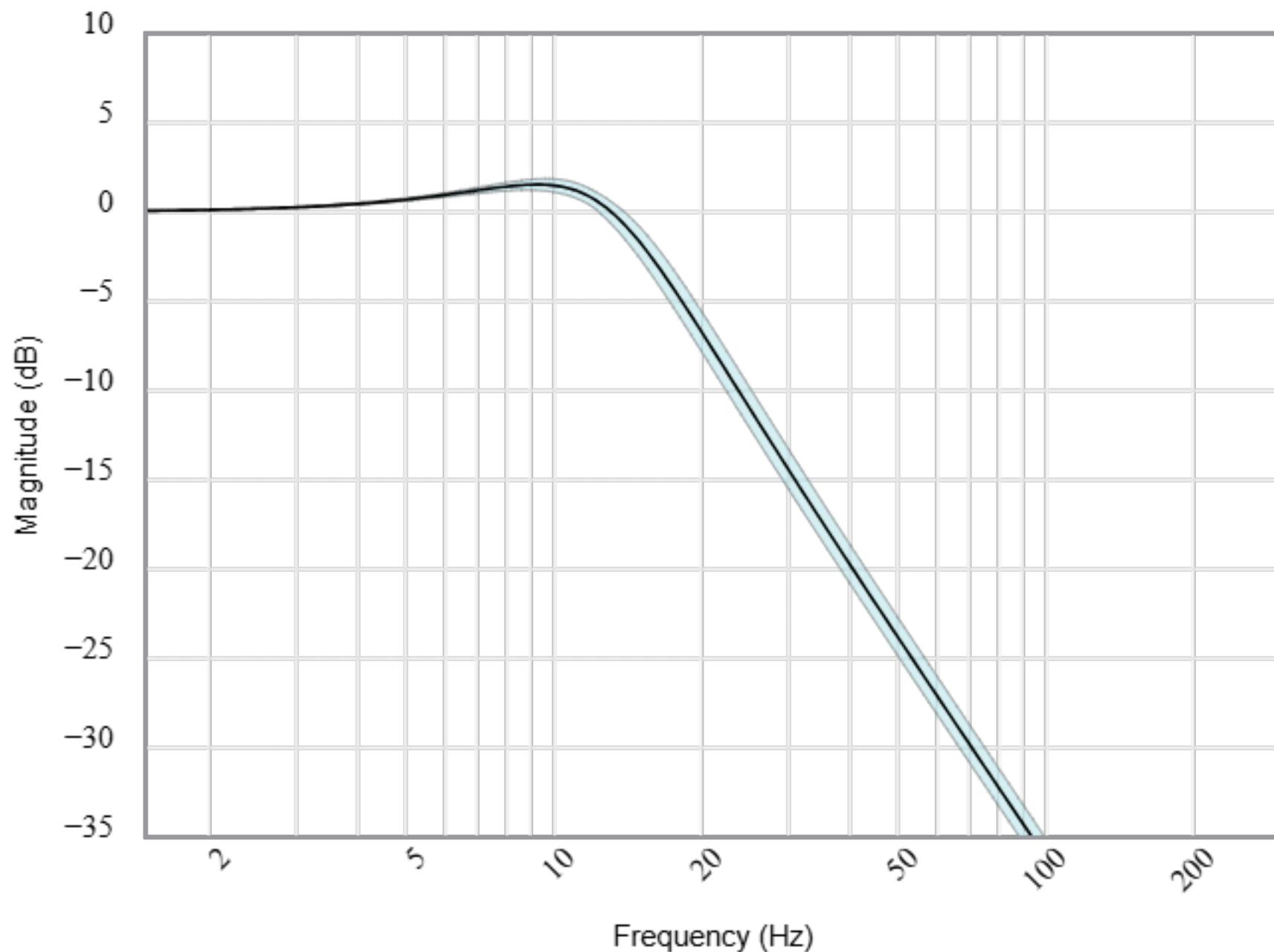
Passband: -3dB at 15Hz

Stopband: -15dB at 30Hz

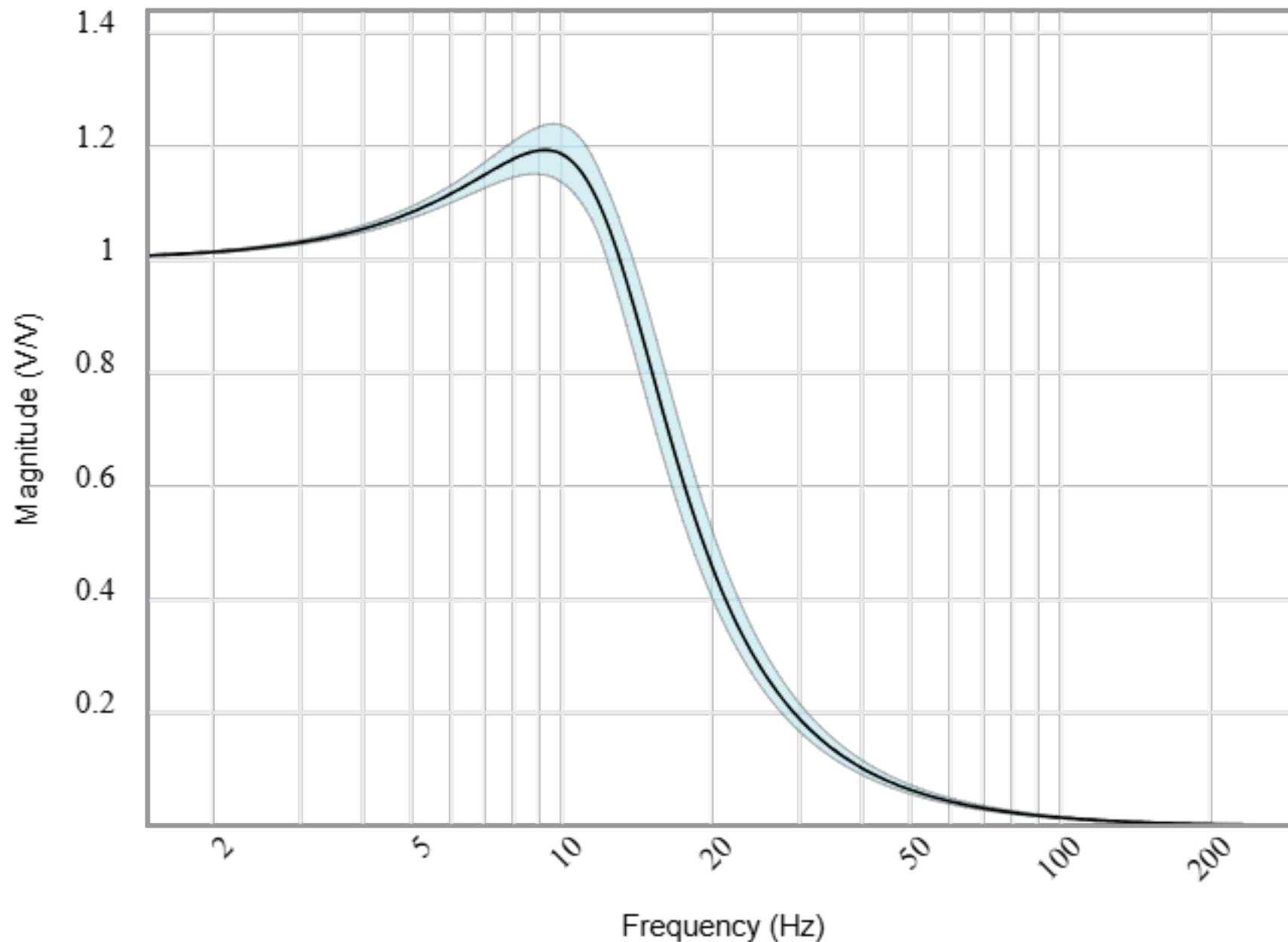
Component Tolerances: Capacitor = 5%; Resistor = 1%; Inductor = 5%; Op Amp GBW = 20%

BOM: refer to BOM.csv file

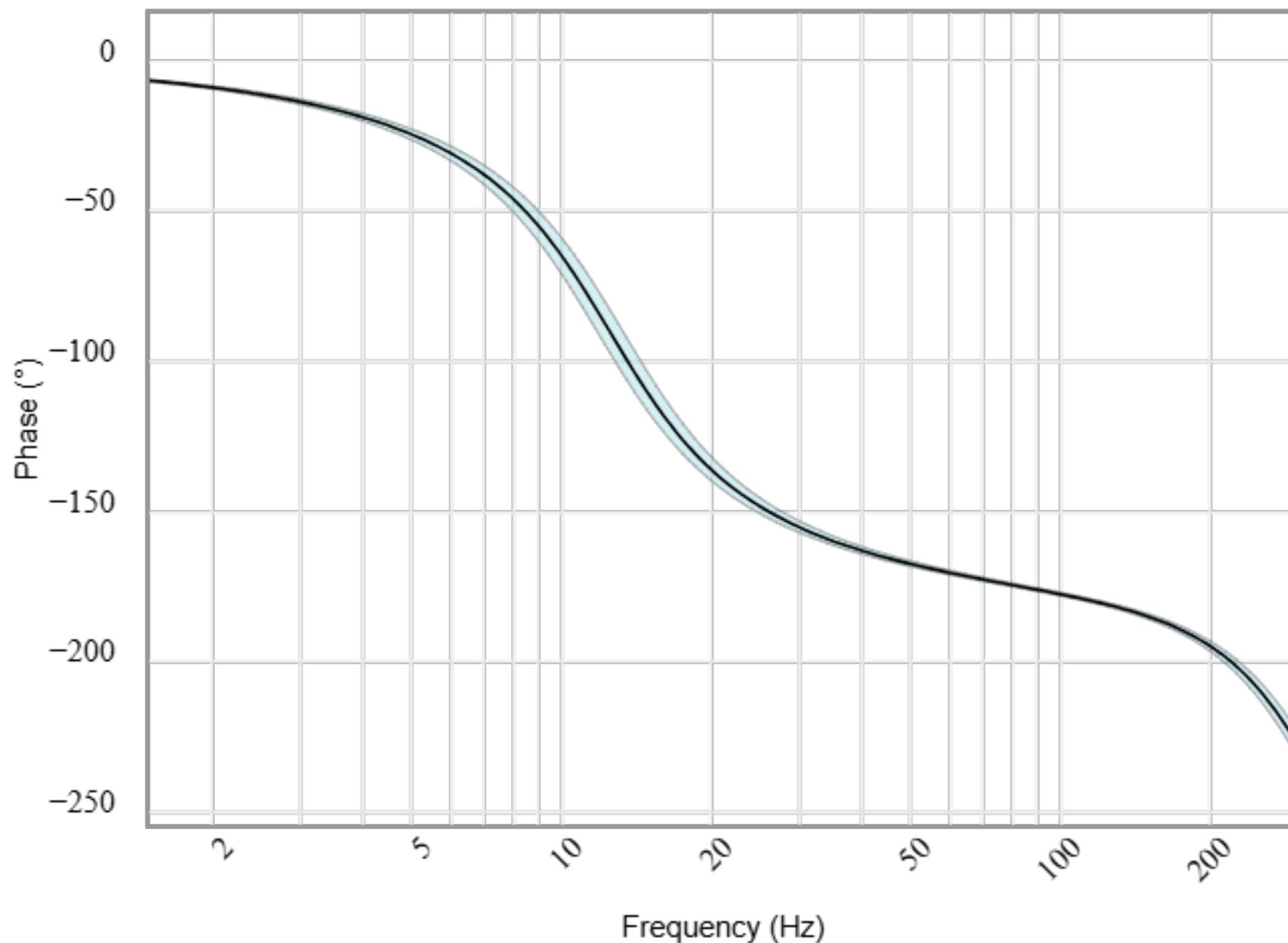
Magnitude(dB)



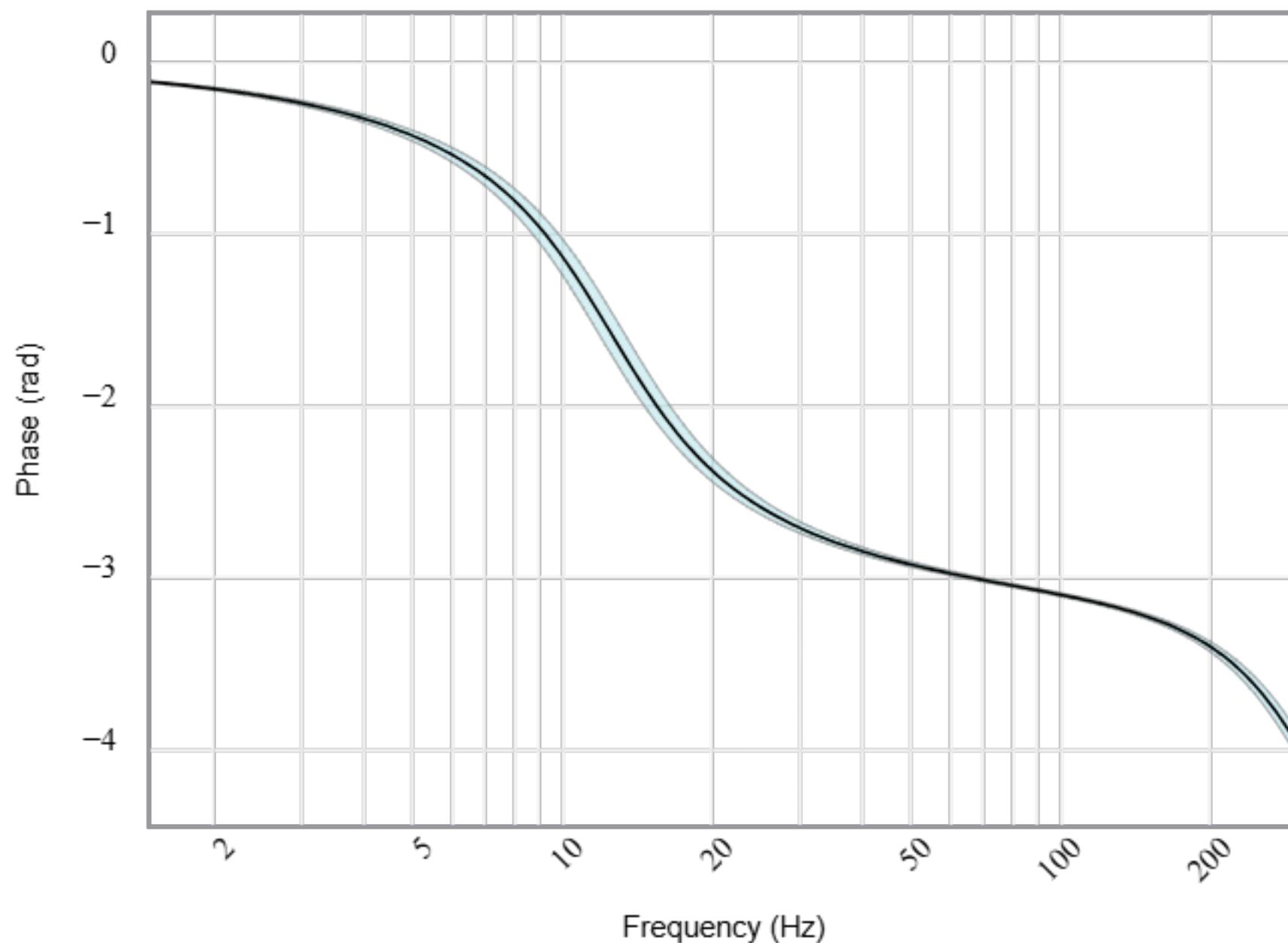
### Magnitude(Volts per Volt)



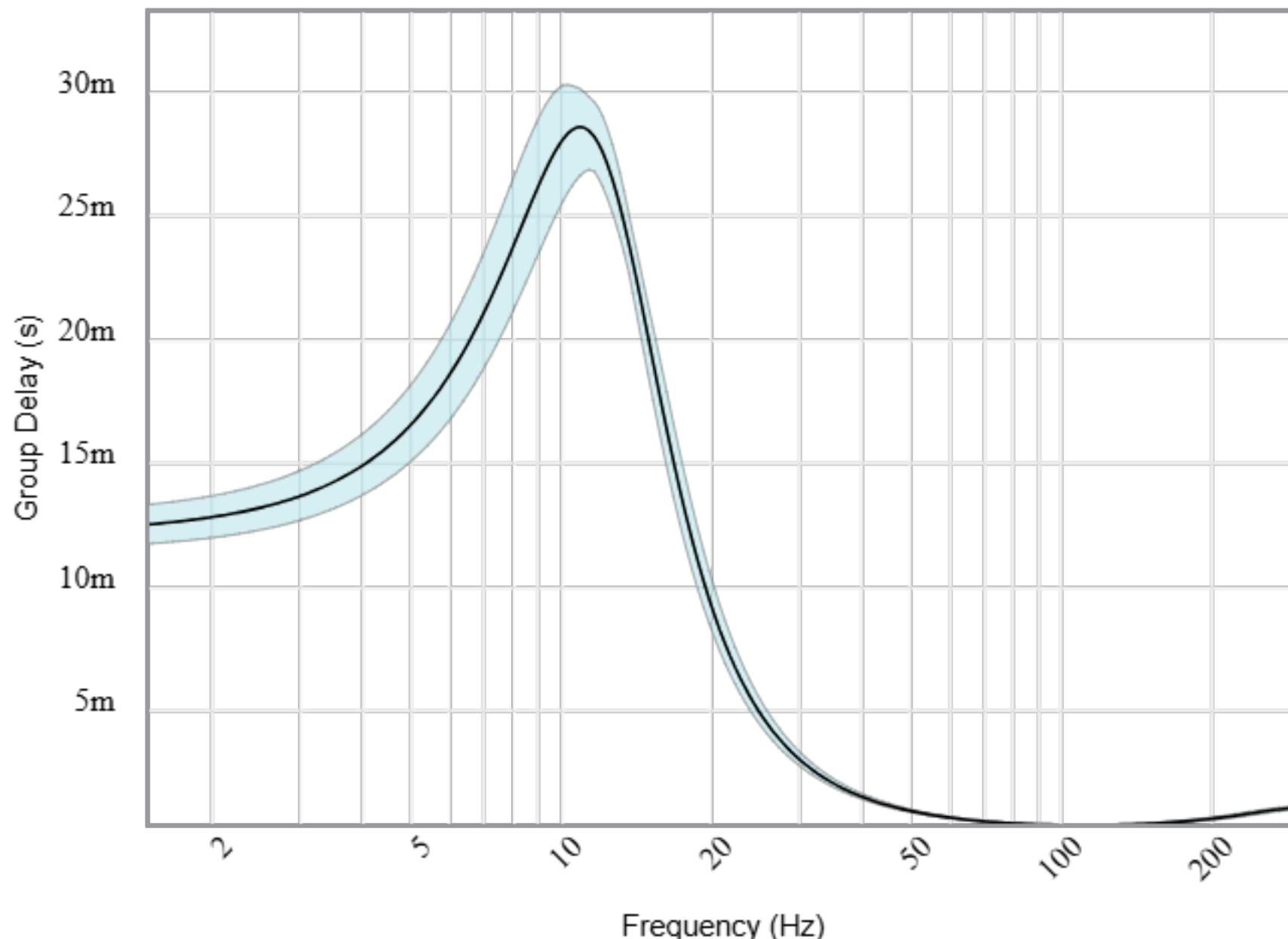
Phase(degrees)



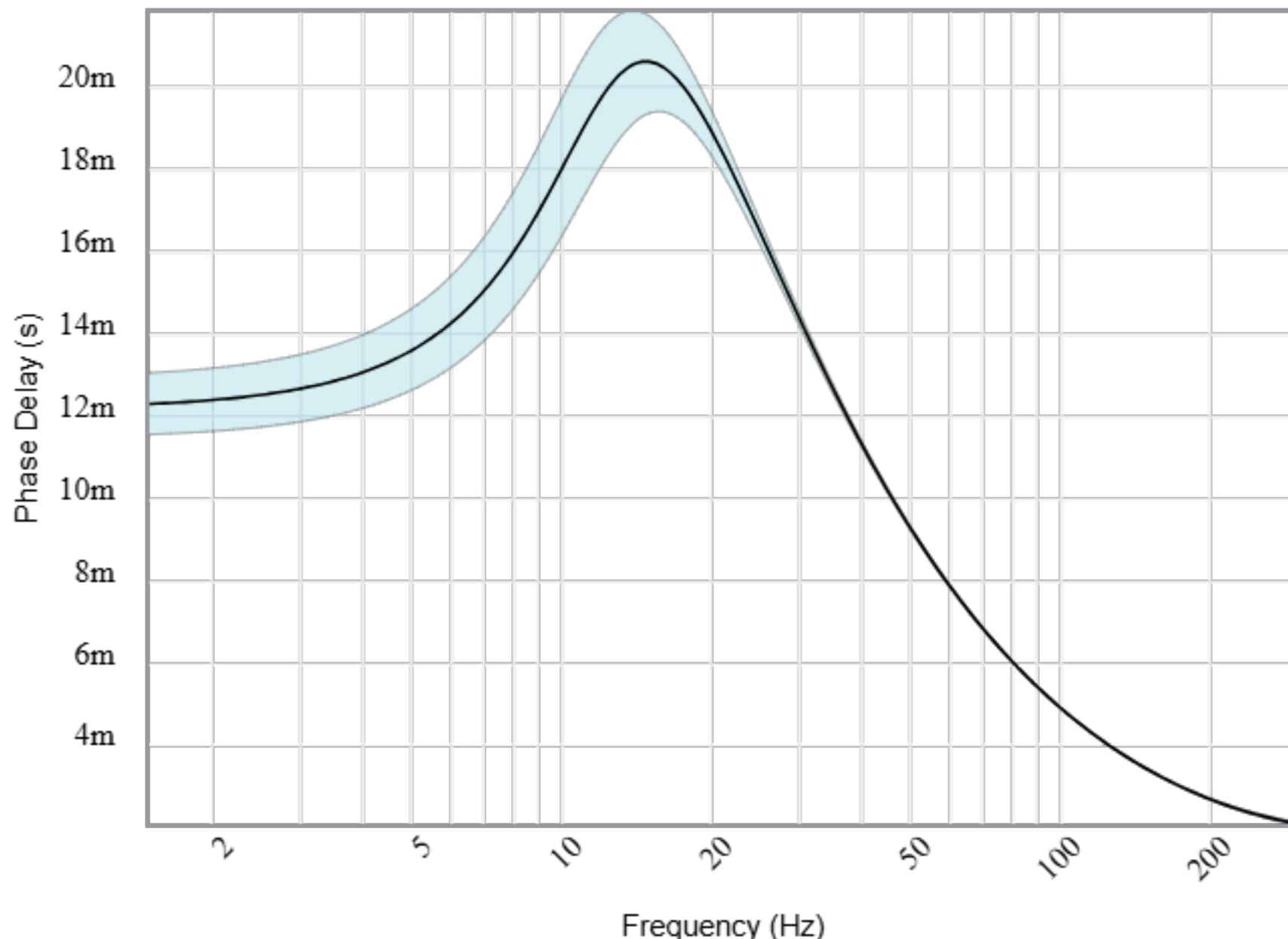
Phase(radians)



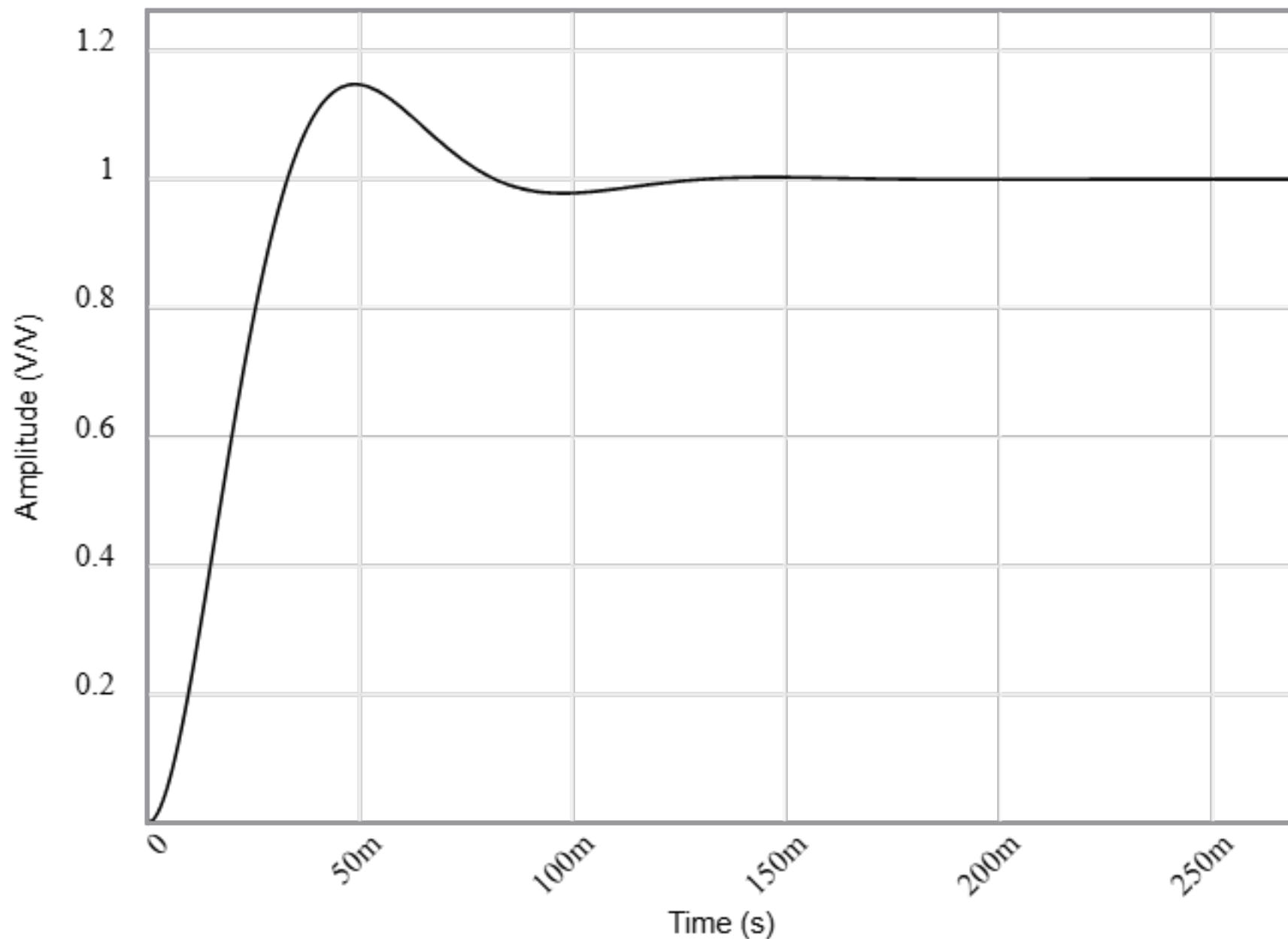
## Group Delay



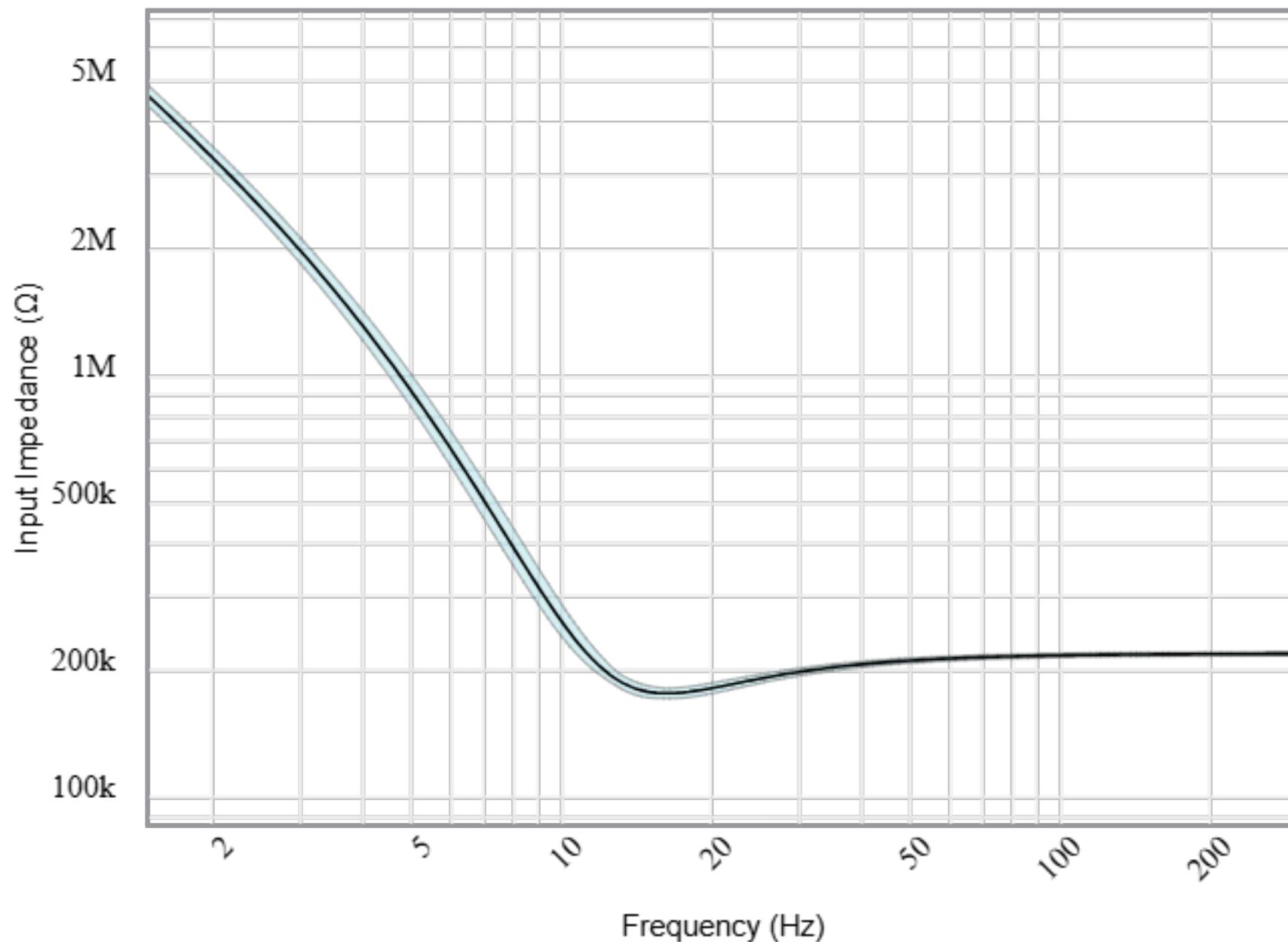
## Phase Delay



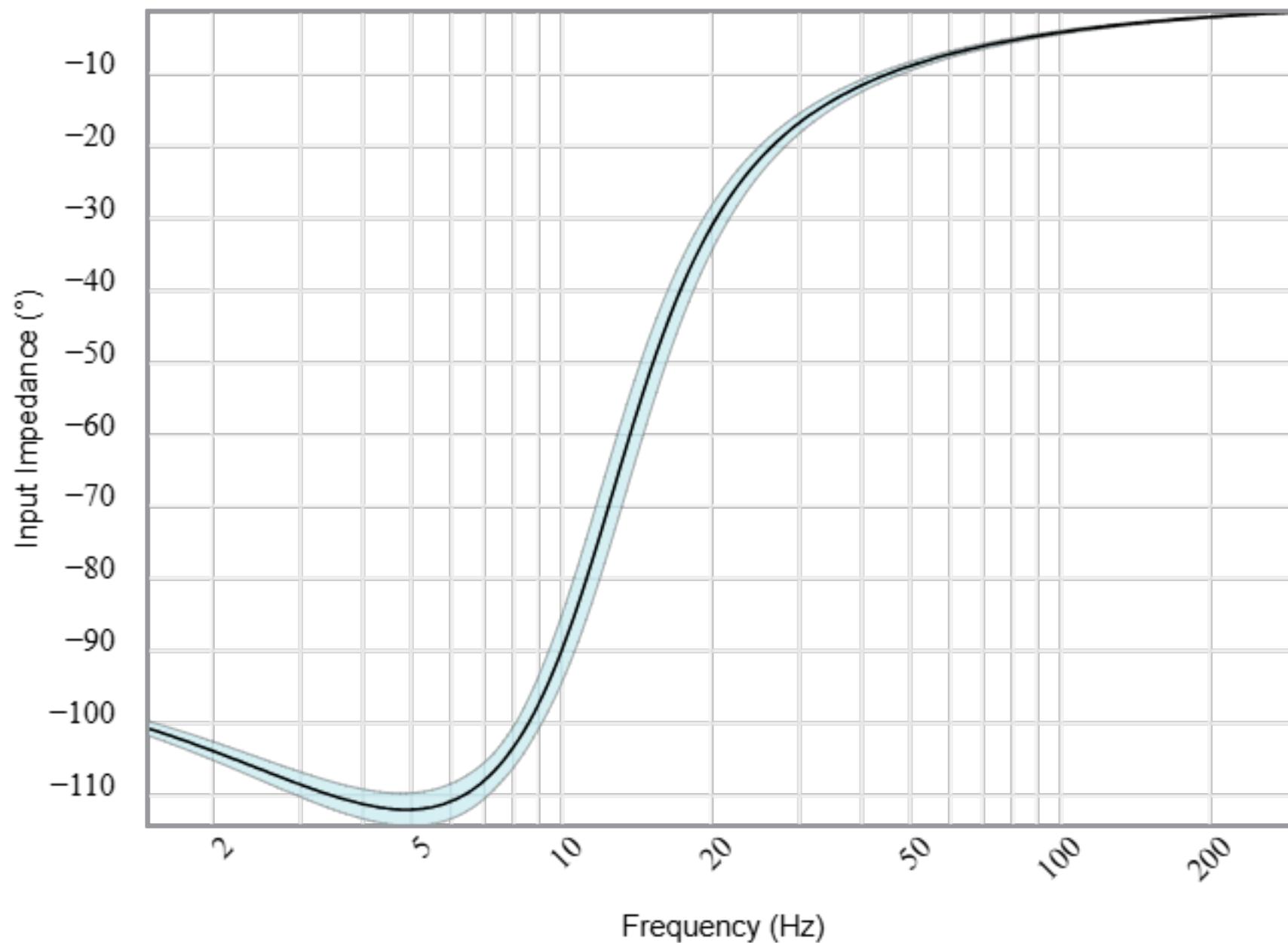
## Step Response



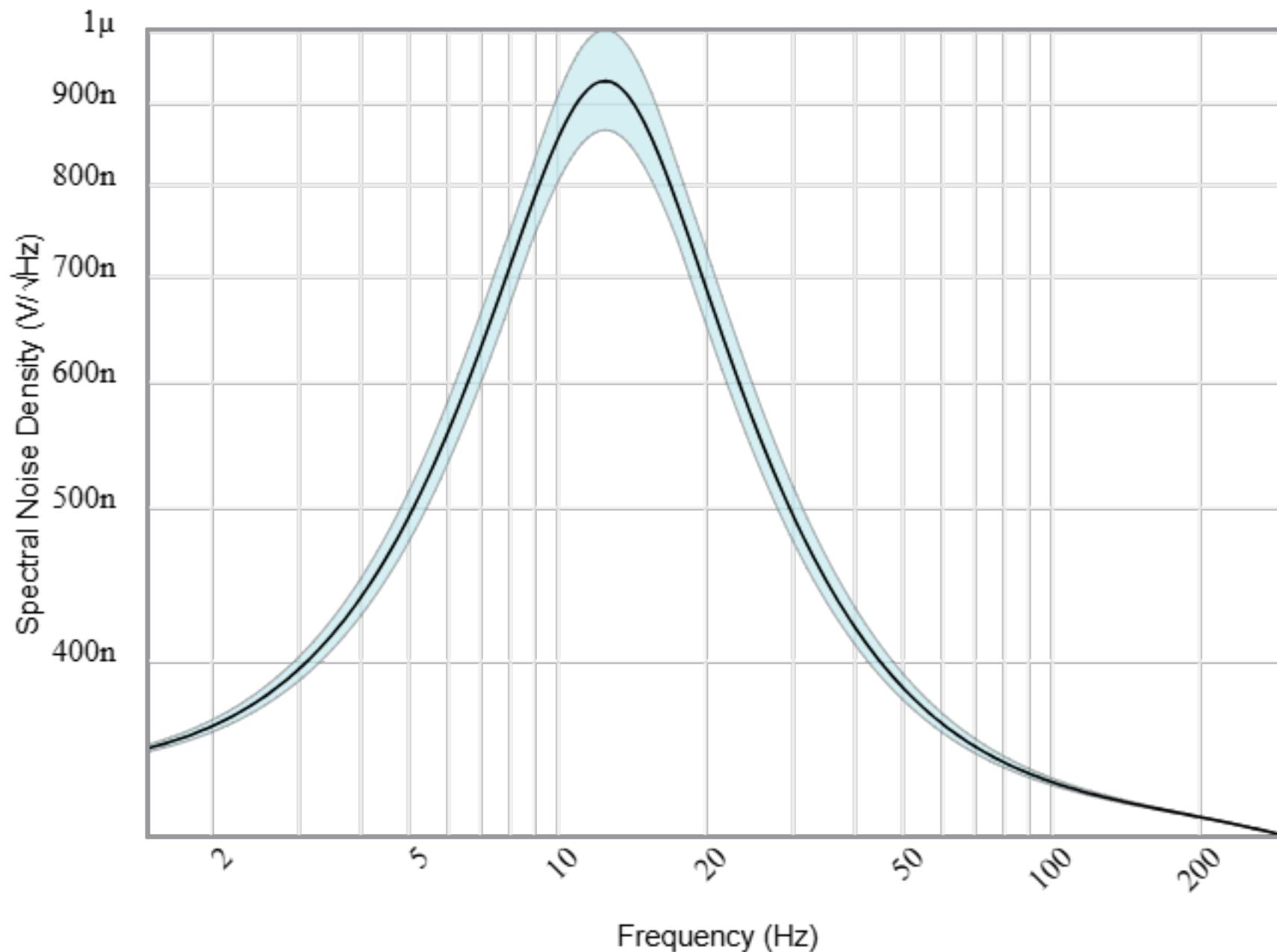
## Input Impedance Magnitude



## Input Impedance Phase

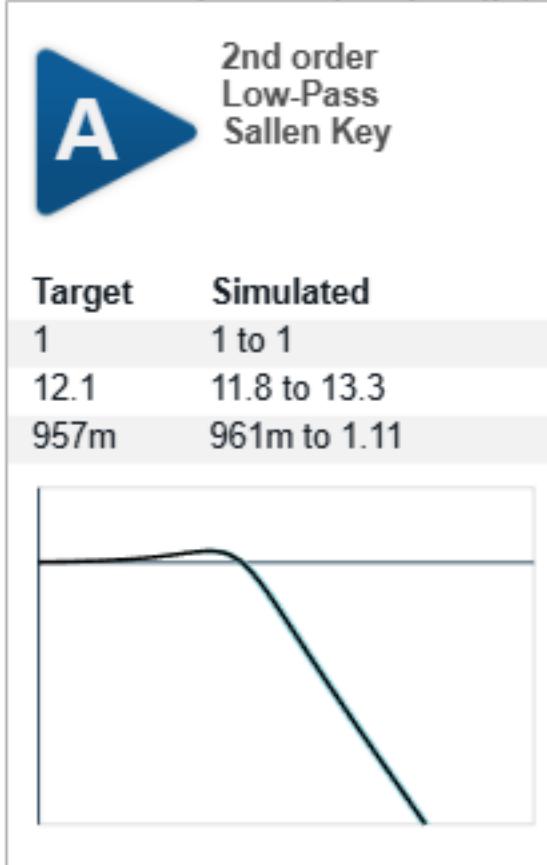


# Noise



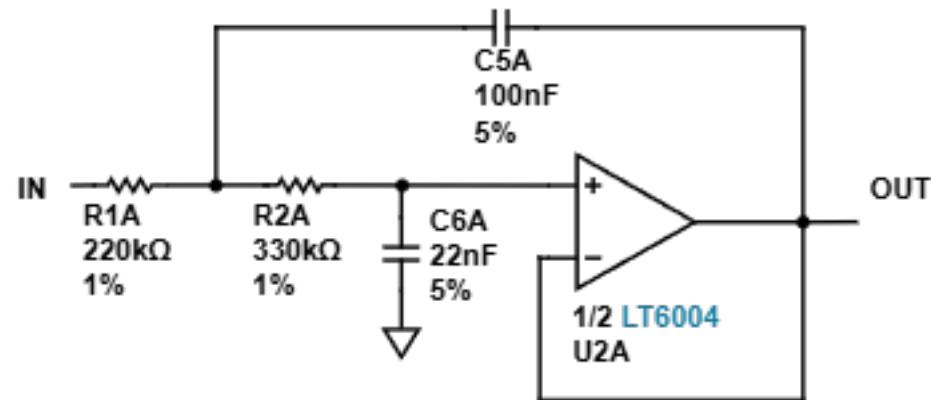
## Stages

Your filter requires 1 op amp stage(s) with the following characteristics



# Circuit

Stage A  
2nd order  
Low-Pass  
Sallen Key



## BYPASS CAPACITORS

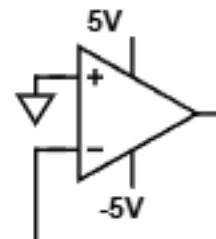
C9A  
100nF  
20%

5V  
—  
C0A  
100nF  
20%

-5V  
—  
C101M  
10µF  
20%

5V  
—  
C100M  
10µF  
20%

SPARES    [Why The Spares?](#)



1/2 LT6004  
U2A