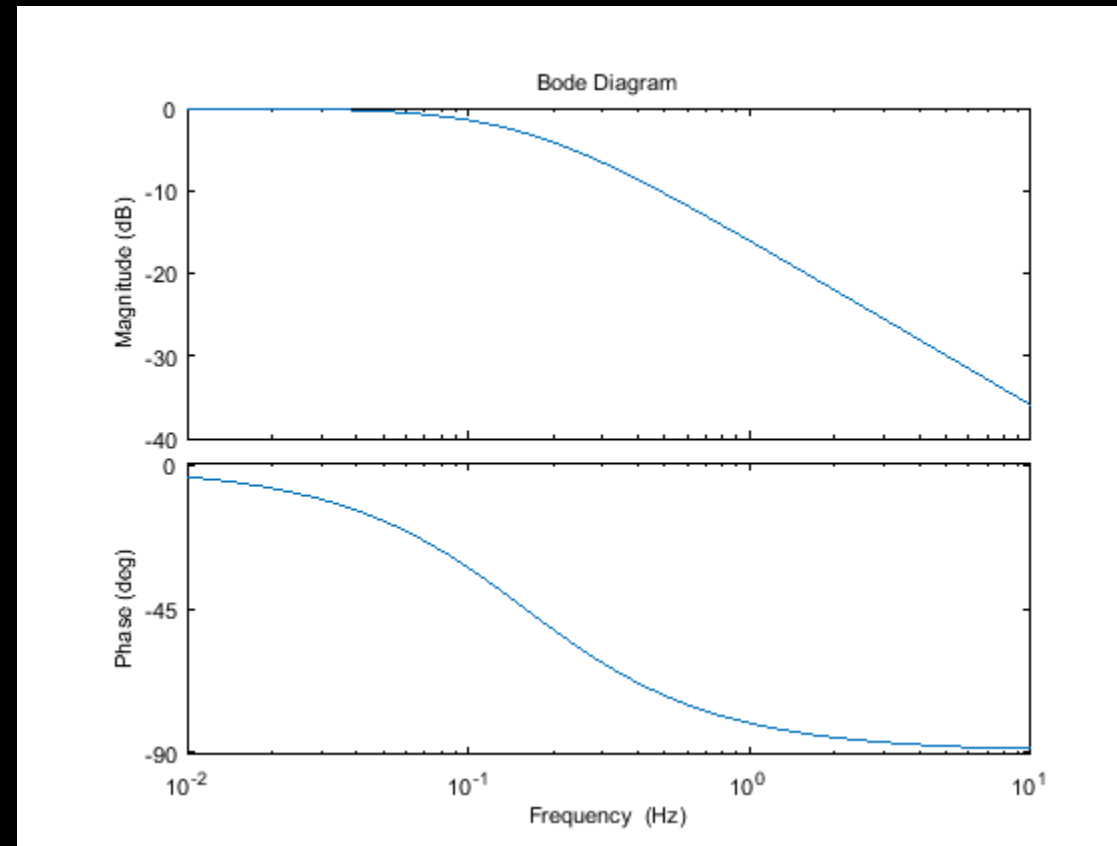# Lab 3 Notes: Bode Plots

Bode Plots

Bode Plots

- Bode plot represents the magnitude and phase of a transfer function
- In order to present a wide range of magnitudes and frequencies, a log-log plot is presented
- Magnitude is presented in dB: $|G(j\omega)|_{dB} = 20 \log_{10} |G(j\omega)|$

Cutoff Frequency

- Assume that system has been normalized such that the maximum magnitude of the transfer function is 1 (0 dB)

- Frequency at which $|G(j\omega)| = 1/\sqrt{2}$

- This corresponds to -3 dB

- If voltage drops by a factor of $1/\sqrt{2}$, then square of voltage (and hence power) drops by a factor of 1/2