Low-pass Filter

$$R := 10000 \cdot \Omega$$ resistance

$$C := 0.01 \cdot \mu F$$ capacitance
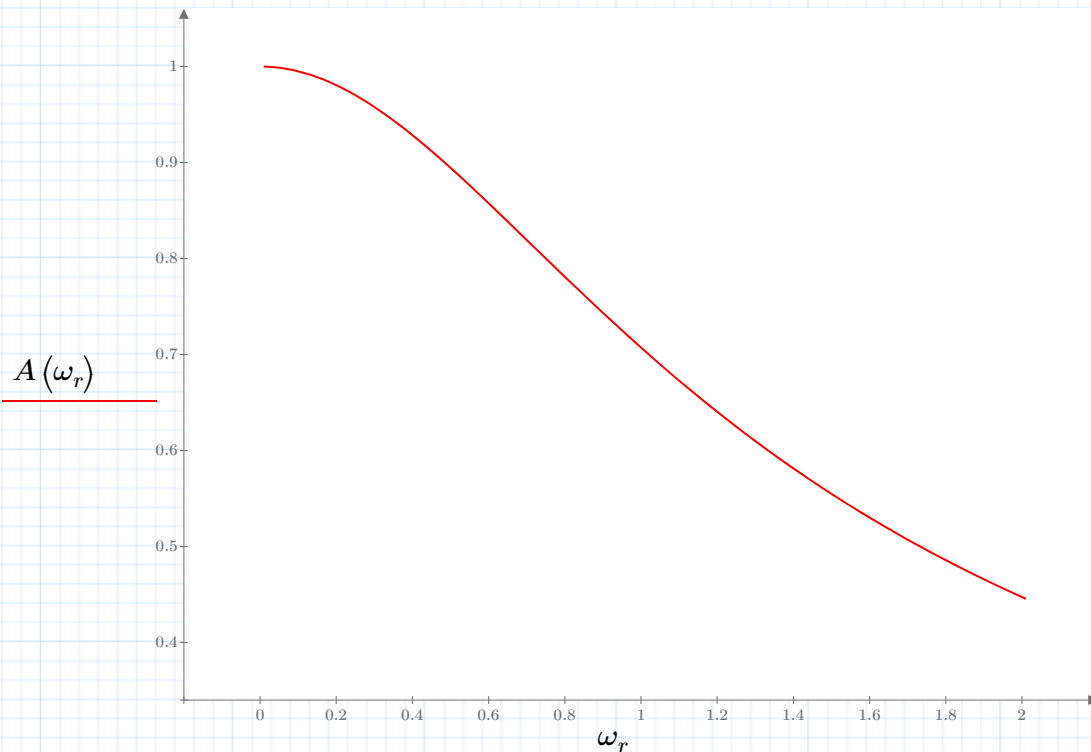
$$\omega_c := \frac{1}{R \cdot C} \qquad \omega_c = \left(1 \cdot 10^4\right) \frac{rad}{sec}$$ cutoff frequency

$$\omega_r = \frac{\omega}{\omega_c}$$ frequency ratio

$$A\left(\omega_r\right) := \frac{1}{\sqrt{\left(1 + \omega_r^2\right)}}$$ amplitude ratio as a function of frequency ratio

$$A(1) = 0.707$$ amplitude ratio at the cutoff frequency

$$\omega_r := 0.01, 0.05 .. 2.5$$

$$\phi\left(\omega_r\right) := -\mathrm{atan}\left(\omega_r\right)$$ phase angle as a function of frequency ratio

$\phi\left(\omega_r\right)\ (deg)$

ω_r