

Note on the Scale

Vertical axis on phase plots:

we will plot the phase on the usual (linear) scale.

Reason:

$$\begin{aligned}\angle \left((M_1 e^{j\phi_1})(M_2 e^{j\phi_2}) \right) &= \angle \left(M_1 M_2 e^{j(\phi_1 + \phi_2)} \right) \\ &= \phi_1 + \phi_2\end{aligned}$$

— this means that we can simply *add* the phase plots for two transfer functions to obtain the phase plot for their product.