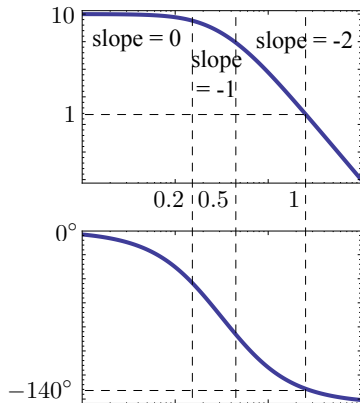


Lead & Lag Compensation

Let's combine the advantages of PD/lead and PI/lag.

Back to our example:
$$G(s) = \frac{10}{\left(\frac{s}{0.2} + 1\right) \left(\frac{s}{0.5} + 1\right)}$$



- ▶ from Matlab, $\omega_c \approx 1$
- ▶ PM $\approx 40^\circ$

New objectives:

- ▶ $\omega_{BW} \geq 2$
- ▶ PM $\geq 60^\circ$
- ▶ $e(\infty) \leq 1\%$ for const. ref.