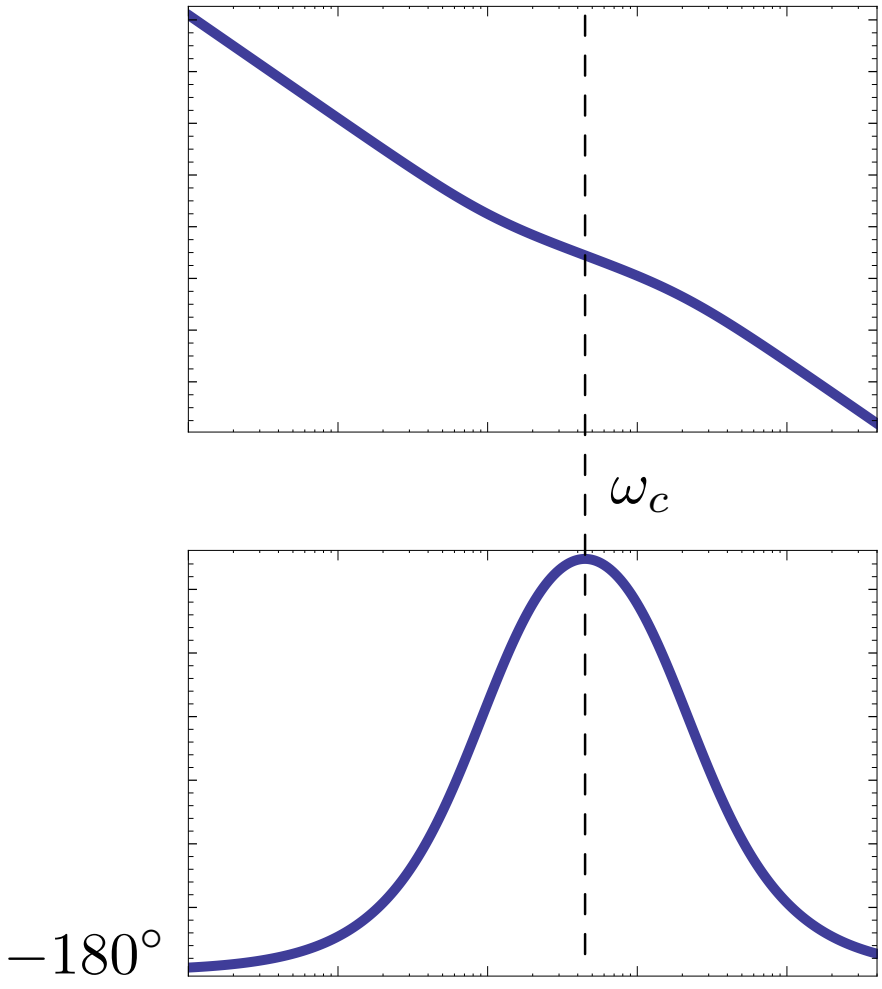
Back to Our Example: $G(s) = \dfrac{1}{s^2}$



Next, we pick z and p so that ω_c is approximately their geometric mean:

e.g., $z = 0.1$, $p = 2$

$$\sqrt{z \cdot p} = \sqrt{0.2} \approx 0.447$$

Resulting lead controller:

$$KD(s) = \frac{1}{16} \frac{\frac{s}{0.1} + 1}{\frac{s}{2} + 1}$$

(may still need to be refined using Matlab)