Example, continued

$$KG(s) = \frac{K}{s(s^2 + 2s + 2)}$$

$$\text{Bode form:} \quad KG(j\omega) = \frac{K}{2j\omega\left(\left(\frac{j\omega}{\sqrt{2}}\right)^2 + j\omega + 1\right)}$$

Plot the magnitude first:

- Type 1 (low-frequency) asymptote: $\dfrac{K/2}{j\omega}$
  $K_0 = K/2, \;\; n = -1 \implies$ slope $= -1$, passes through $(\omega = 1, M = K/2)$
- Type 3 (complex pole) asymptote:
  break-point at $\omega = \sqrt{2} \implies$ slope down by 2
- $\zeta = \dfrac{1}{\sqrt{2}} \implies$ no reasonant peak