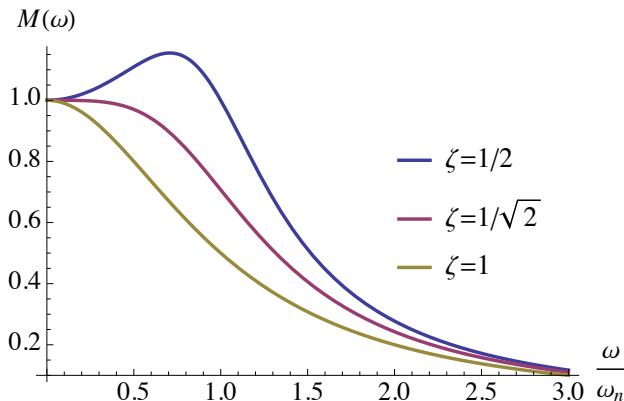


Type 3: Magnitude, Complex Pole Case

How does the magnitude plot look? Depends on the value of ζ :



The magnitude hits its peak value (for $\zeta < 1/\sqrt{2} \approx 0.707$) occurs when $\omega = \omega_r$, where

$$\omega_r = \omega_n \sqrt{1 - 2\zeta^2} < \omega_n$$