Oscilações Amortecidas Forçadas

$$x(t) = A(\omega) \cos [\omega t + \varphi(\omega)]$$

com:

$$A(\omega) = F_0 / \{ m [(\omega_0^2 - \omega^2)^2 + \gamma^2 \omega^2]^{1/2} \}$$

e:

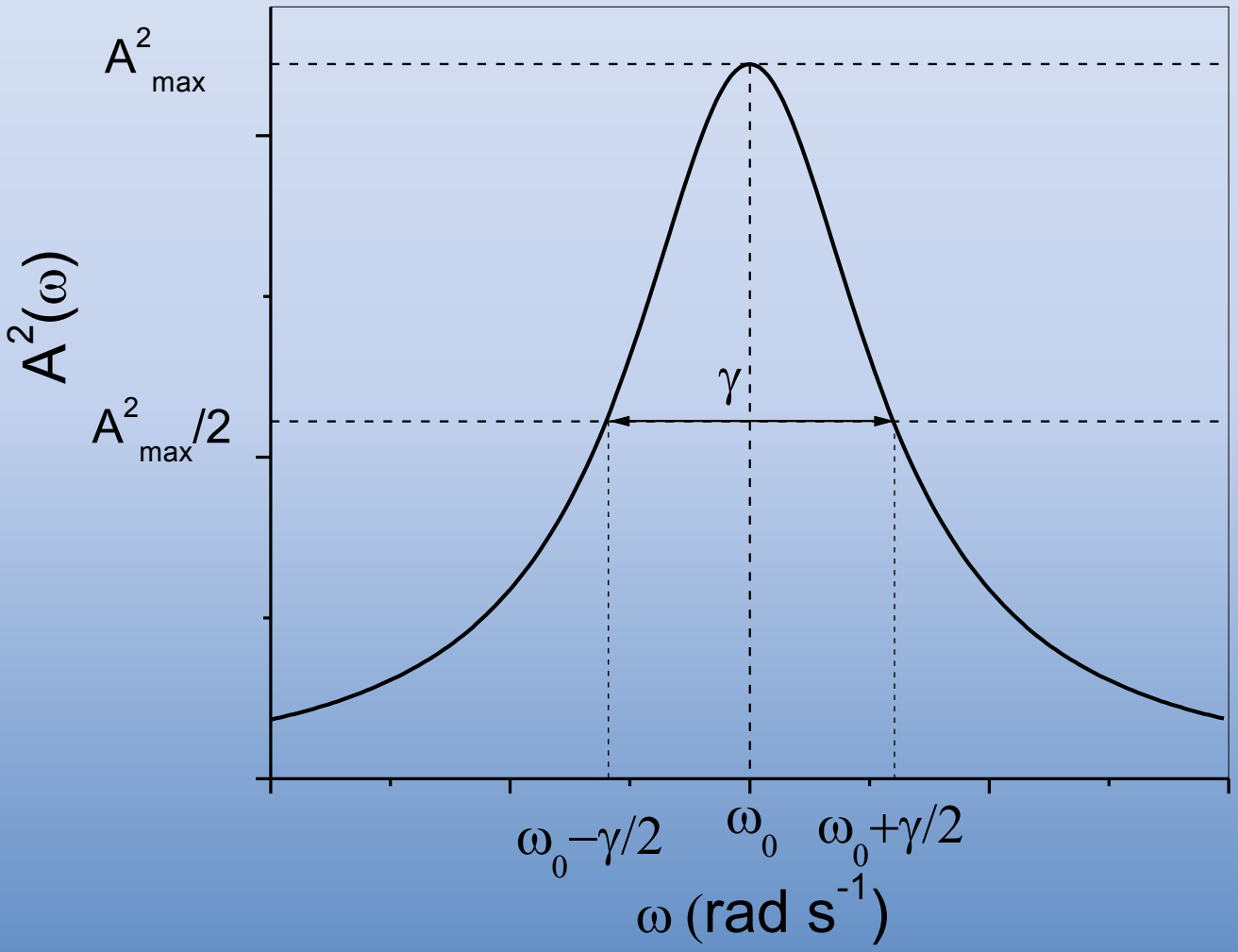
$$\varphi(\omega) = - \tan^{-1} [\gamma\omega / (\omega_0^2 - \omega^2)]$$

Ressonância

$$A^2(\omega) = [\ F_0 / (2m\ \omega_0)\ ]^2\ .\ 1/\ [\ (\omega_0 - \omega)^2 + \gamma^2/4\ ]$$

$$\varphi(\omega) = -\ \tan^{-1}\ \{\ \gamma / [\ 2(\omega_0^2 - \omega^2)\ ]\ \}$$

$$A_{max} = A(\omega_0) = F_0 / (m \gamma \omega_0)$$



$$\varphi(\omega) = - \tan^{-1} \{ \gamma / [2(\omega_0^2 - \omega^2)] \}$$