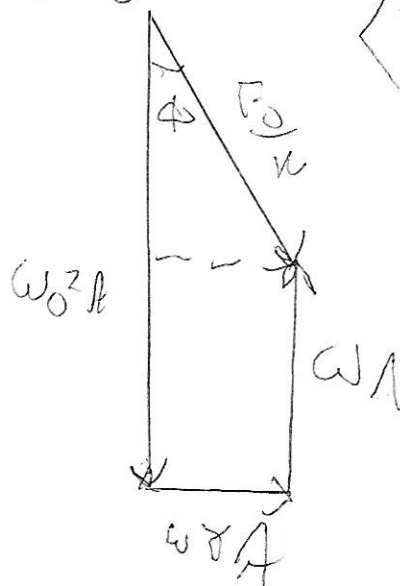


$$\gamma < 2\omega_0$$

$$F_0 \cos \omega t = \ddot{\psi} + \gamma \dot{\psi} + \omega_0^2 \psi$$

$$\omega < \omega_0$$



$$\tan \phi = \frac{\gamma \omega}{\omega_0^2 - \omega^2}$$

$$(\omega_0^2 - \omega^2)^2 A^2 + \omega^2 \gamma^2 = (F_0)^2$$

$$A = \frac{F_0}{m} \left( \frac{1}{(\omega_0^2 - \omega^2)^2 + \omega^2 \gamma^2} \right)^{1/2}$$

$$\psi = A \cos(\omega t + \phi)$$

$$\dot{\psi} = \omega A \cos(\omega t + \phi + \frac{\pi}{2})$$

$$\ddot{\psi} = -\omega^2 A \cos(\omega t + \phi)$$