Zapažanja:

Izvod izraza (5.1.) $\omega_0 = \sqrt{\frac{k}{M + \frac{m}{3}}}$

$dK' = \frac{dm'}{2} \cdot v_x'^2 \,, \quad v_x = \frac{m'}{m} \cdot \dot{X}$

$= \frac{dm'}{2} \cdot \left(\frac{m'}{m} \cdot \dot{x}\right)^2$

$= \frac{\dot{x}^2}{2m^2} \cdot m'^2 \cdot dm'$

$K' = \int dK'$

$= \frac{\dot{x}}{2m^2} \cdot \int_0^m m'^2 \, dm'$

$= \frac{m \cdot \dot{x}^2}{6}$

$E = K + K' + U$

$= \frac{M \cdot \dot{x}^2}{2} + \frac{m \cdot \dot{x}^2}{6} + \frac{k x^2}{2}$

$= \frac{1}{2} \cdot \left(M + \frac{m}{3}\right) \cdot \dot{x}^2 + \frac{k x^2}{2}$

$\ddot{x} + \omega_0^2 \cdot x = 0$

$\omega_0 = \frac{k}{M + \frac{m}{3}}$

$T = \frac{1}{f}$

$f_0 = \frac{1}{T}$

$2\pi f_0 = \sqrt{\frac{k}{M + \frac{m}{3}}}$

$k = 4 \cdot \pi^2 \cdot f_0^2 \cdot \left(M + \frac{m}{3}\right)$

$f_{0+1} = f_0 + \frac{f_0}{100} =$ H_z A = mm

$f_{0-1} = f_0 - \frac{f_0}{100} =$ H_z A = mm

$f_{0+2} = f_0 + \frac{f_0}{50} =$ H_z A = mm

$f_{0-2} = f_0 - \frac{f_0}{50} =$ H_z A = mm

$f_{0+4} = f_0 + \frac{f_0}{25} =$ H_z A = mm

$f_{0-4} = f_0 - \frac{f_0}{25} =$ H_z A = mm

$\Delta f_p =$ H_z

$\Delta f_p = \sqrt{3} \cdot \frac{f_{rez}}{Q}$

$Q = \sqrt{3} \cdot \frac{f_{rez}}{\Delta f_p}$

$$f = \frac{1}{T}$$

$$k = 4\pi^2 f^2 \cdot \left(M + \frac{m}{3}\right)$$

f_{0+1} = H_2 A = mm

f_{0-1} = H_2 A = mm

f_{0+2} = H_2 A = mm

f_{0-2} = H_2 A = mm

f_{0+4} = H_2 A = mm

f_{0-4} = H_2 A = mm

$$Q = \sqrt{3} \cdot \frac{f_{rez}}{\Delta f_p}$$

Δf_p = H_2

$$\omega_0 = 2\pi f = \sqrt{\frac{k}{M + \frac{m}{3}}}$$

$$\omega_{A,B}^2 = (2\pi f_{A,B})^2$$

$$= \frac{k_{12}}{2 \cdot m_1} \cdot (1 + K + \mu \mp \sqrt{\Delta})$$

$$\left(\frac{\hat{A}_2}{\hat{A}_1}\right)_{A,B} = \frac{1 + K - \mu \pm \sqrt{\Delta}}{2}$$

$$K = \frac{k_{01}}{k_{12}}$$

$$\mu = \frac{m_1}{m_2}$$

$$\Delta = (1 + K - \mu)^2 + 4\mu$$

$$m_1 \to m_1' = m_1 + \frac{m_{01}}{3} + \frac{m_{12}}{3}$$

$$m_2 \to m_2' = m_2 + \frac{m_{12}}{3}$$

$$f = 2\pi \cdot \sqrt{\frac{k_{12}}{2 \cdot m_1} \cdot (1 + K + \mu \mp \sqrt{\Delta})}$$

$$= 2\pi \sqrt{\frac{k_{12}}{2 \cdot m_1} \left(1 + \frac{k_{01}}{k_{12}} + \frac{m_1}{m_2} \mp \sqrt{\left(1 + \frac{k_{01}}{k_{12}} - \frac{m_1}{m_2}\right)^2 + 4 \cdot \frac{m_1}{m_2}}\right)}$$