Popravni prvog kolokvijuma iz Tehničke fizike 1 - rešenja

1. a) \( a = \sqrt{\left(\frac{2 \cdot \nu_1}{t}\right)^2 + \left(3 \cdot k \cdot t^2 \cdot \nu_1\right)^2} = 3000,01 \text{ m/s}^2 \), b) \( \varphi = \arctg \left(\frac{3 \cdot k \cdot t^3}{2}\right) = 89,85^\circ \),

2. a) \( a = \frac{M - m \cdot g}{M + m} \cdot \nu \), \( F_z = \frac{2 \cdot m \cdot M}{M + m} \cdot g \), b) \( \frac{m}{M} < \frac{1}{3} \)

3. a) \( h_2 = h_1 \cdot \left(\frac{m_1}{m_1 + m_2}\right)^2 = 0,65 \text{ cm} \), b) \( \delta = \frac{m_2}{m_1 + m_2} = 71,43\% \)

4. a) \( H = R_z \cdot \frac{\nu_0^2}{2 \cdot g \cdot R_z - \nu_0^2} = 2576 \text{ km} \), b) \( g_H = g \cdot \left(\frac{R_z}{R_z + H}\right)^2 = 4,98 \text{ m/s}^2 \)

Popravni drugog kolokvijuma iz Tehničke fizike 1 - rešenja

1. \( \omega = \frac{1}{r} \cdot \sqrt{\frac{4}{7} \cdot g \cdot (R + r)} \)

2. a) \( \nu_1 = 520 \text{ Hz} \), b) \( \frac{F'}{F} = \left(\frac{\nu_1}{\nu_1}\right)^2 = 6,25 \)

3. a) \( H = D_{\text{max}} = 20 \text{ m} \), b) \( Q_v = 0,56 \text{ l/s} \), c) \( Q_m = 0,56 \text{ kg/s} \)

4. \( \eta = 1 - \frac{b^k - 1}{\kappa \cdot a^k - 1 \cdot (b - 1)} \)