

$$\begin{aligned}
& k_{10} \chi_6(t) + k_{10} (\chi_6(t) - \chi_7(t)) + 2 m_0 \left(\cos(\theta(t)) R(t) - \cos(\alpha(t)) \cos(\theta(t) + \psi(t)) \left(\frac{L_0}{10} + \eta_6(t) \right) \right) \\
& \left(\cos(\theta(t)) R'(t) + \cos(\theta(t) + \psi(t)) \sin(\alpha(t)) \left(\frac{L_0}{10} + \eta_6(t) \right) \alpha'(t) - R(t) \sin(\theta(t)) \theta'(t) + \right. \\
& \left. \cos(\alpha(t)) \sin(\theta(t) + \psi(t)) \left(\frac{L_0}{10} + \eta_6(t) \right) (\theta'(t) + \psi'(t)) - \cos(\alpha(t)) \cos(\theta(t) + \psi(t)) \eta_6'(t) \right) \chi_6'(t) + \\
& \left(m_0 \left(\cos(\theta(t)) R(t) - \cos(\alpha(t)) \cos(\theta(t) + \psi(t)) \left(\frac{L_0}{10} + \eta_6(t) \right) \right)^2 + i_{zm6} \right) \chi_6''(t) = \\
& c_{10} (\chi_7'(t) - \chi_6'(t)) - c_{10} \chi_6'(t)
\end{aligned}$$