$\frac{\mu_0 v_0}{6} \cdot \frac{1}{2} \cdot \frac{2k}{m} \cdot t_0^2 +$ $\frac{k v_0}{3m} t_0^3$

$k = \frac{k v_0}{3m} t_0^3 = \mu m g \cdot \mu^2 \cdot \frac{m g z}{6 k v_0^2}$

$= \mu m g \cdot \mu^2 \cdot \left(\frac{2k v_0^2}{mg} \right)^{-1}$

→ "transport"

t_0

- $\sin(\omega t_0) \to \alpha$
- $\cos(\omega t_0) \to 1$

[2.1]

$$\left[\cancel{A} - \frac{q_A}{\ell} \cdot \frac{1}{\ell} + \left(-1 + \frac{q_A}{\ell} \right)^3 \frac{1}{\ell} \right]$$

$= \cancel{A} + \frac{3 q_A}{\ell}$

$m\ddot{q}_i = -A q_i$

$q_i' = P^{-1} q_i$

$D = P^{-1} A P$

diagonalised

$m\ddot{q}_i' = -D q_i'$

$\ddots$

$= \begin{bmatrix} \omega_1^2 & & 0 \\ & \omega_2^2 & \\ 0 & & \ddots \end{bmatrix} q_i'$

$q_{i1}' = -\omega_1^2 q_{i1}'$

$(\lambda_3 E - A) = 0$

(q_A, q_B, q_C)

$q_A : q_B : q_C = 1 : -2 : 1$

$A_\beta = k_0 / \lambda_3$

1
1