Mecânica e Ondas

Formulário

4 de Abril de 2011

$$x = x_0 + vt + \frac{1}{2}at^2 \quad | \quad x = x' + Vt \tag{1}$$

$$\vec{v} = \frac{d\vec{r}}{dt} \quad | \quad \vec{a} = \frac{d\vec{v}}{dt} \quad | \quad d = \int v\ dt \tag{2}$$

$$\vec{a_c} = \frac{v^2}{R} \quad | \quad \omega = \frac{d\theta}{dt} \quad | \quad \alpha = \frac{d\omega}{dt} \quad | \quad v = \omega \times r \tag{3}$$

$$\vec{F}_{centrifuga} = -m\ \vec{\omega} \times (\vec{\omega} \times \vec{r}) \quad | \quad \vec{F}_{coriolis} = -2m\ (\vec{\omega} \times \vec{v}) \tag{4}$$

$$W = \int \vec{F} \cdot d\vec{r} \quad | \quad \Delta K = W \quad | \quad \Delta K = -\Delta U \tag{5}$$

$$U = -G\frac{Mm}{R} \quad | \quad F = -\nabla U \tag{6}$$

$$\vec{p} = m\vec{v} \quad | \quad \vec{L} = \vec{r} \times \vec{p} \tag{7}$$

$$\frac{d\vec{p}}{dt} = \vec{F} \quad | \quad \frac{d\vec{L}}{dt} = \vec{\tau} \tag{8}$$

$$\vec{r}_{CM} = \frac{1}{M}\sum m_i\vec{r_i} \quad | \quad \vec{v}_{CM} = \frac{1}{M}\sum m_i\vec{v_i} = \frac{1}{M}\sum \vec{p_i} \quad | \quad \vec{a}_{CM} = \frac{1}{M}\sum m_i\vec{a_i} \tag{9}$$

$$\rho\frac{v^2}{2} + \rho gh + P = constant \tag{10}$$

$$m\frac{d^2y}{dt^2} = 2mW_T gt \Rightarrow \frac{1}{3}W_T gt^3 \tag{11}$$

$$v_1' = \frac{m_1 - m_2}{m_1 + m_2}v_1 \quad | \quad v_2' = \frac{2m_1}{m_1 + m_2}v_1 \tag{12}$$