

Rotationsmängdsmomentet

$$m \cdot v_{t1} \cdot r = m \cdot v_{t2} \cdot r_2 \quad \text{där } r_2 = r_0 \text{ " "}$$

$$v_{t1} \cdot r = v_{t2} \cdot r_0 \quad \therefore$$

$$\omega \cdot r^2 = \frac{2\pi}{T} \cdot r_0^2$$

$$\omega = \frac{2\pi r_0^2}{T \cdot r^2}$$

r_0 = radie på objekt

Centripetalkraft

$$F = \omega^2 \cdot r \cdot m \quad \therefore$$

T = rotations tid

$$F = \frac{4\pi^2 \cdot r_0^4}{T^2 \cdot r^3} \cdot m$$

G = grav konstant

Gravitationskraft

$$F = \frac{m_1 \cdot m_2 \cdot G}{r^2} \quad \therefore$$

m = massa på objekt

$$F(r) = \frac{4\pi^2 r_0^4}{T^2 \cdot r^3} - \frac{G m}{r^2} \quad \therefore$$

$$r = \frac{4\pi^2 \cdot r_0^4}{G m T^2} \quad \text{Steadystate radie}$$