

formula Tidal forces

$$F_L = \frac{GM_e M_m}{(d_m + R_e)^2}$$

$$\Delta F_1 = F_L - F_L'$$

$$F_L' = \frac{GM_e M_m}{(d_m - R_e)^2}$$

$$d \gg R_e$$

$$\Delta F_1 = 4 F_0 \left(\frac{R_e}{d_m} \right)$$

$$\Delta F_2 = \frac{4 GM_e}{d_s^3} \frac{R_e}{d_s}$$

$$\frac{\Delta F_1}{\Delta F_2} \approx 3.5$$