

CAMP GRAVITATORI

	mM	M
r^2	$F = G \frac{mM}{r^2}$	$g = G \frac{M}{r^2}$
r	$E_p = -G \frac{mM}{r}$	$V = -G \frac{m}{r}$

G

$$\Delta E_m = 0$$

$$E_m = E_c + E_p$$

$$W = -\Delta E_p$$

Velocitat d'escapament

$$v_o = \sqrt{\frac{2GM}{R}}$$

Velocitat d'un satèl·lit

$$v = \sqrt{\frac{GM}{r}}$$

$$r = R + h$$

$$v = \omega r$$

$$F = ma$$

$$a_n = \omega^2 r$$

$$\omega = \frac{2\pi}{T}$$

$$T^2 = kr^3$$

Tercera llei de Kepler

$$G = 6.67 \cdot 10^{-11} \text{ m}^3 \text{ kg}^{-1} \text{ s}^{-2}$$

$$R_{\oplus} = 6.371 \cdot 10^6 \text{ m}$$

$$M_{\oplus} = 5.972 \cdot 10^{24} \text{ kg}$$

$$R_{\zeta} = 1.737 \cdot 10^6 \text{ m}$$

$$M_{\zeta} = 7.348 \cdot 10^{22} \text{ kg}$$

$$M_{\odot} = 1.989 \cdot 10^{30} \text{ kg}$$

$$UA = 1.496 \cdot 10^{11} \text{ m}$$

CAMP ELÈCTRIC

	qQ	Q
r^2	$F = k \frac{Qq}{r^2}$	$E = k \frac{Q}{r^2}$
	k	
r	$E_p = k \frac{Qq}{r}$	$V = k \frac{Q}{r}$

$$\Delta E_m = 0$$

$$E_m = E_c + E_p$$

$$W = -\Delta E_p$$

$$k = \frac{1}{4\pi\epsilon}$$

(al buit surten els $8.99 \cdot 10^9$)

$$Q = It$$

$$V = IR$$

$$P = IV$$

Condensadors

$$C = \frac{Q}{V}$$

$$C = \epsilon_0 \frac{A}{d}$$

$$E_p = \frac{1}{2} QV$$

$$E = \frac{\Delta V}{d}$$

$$k = 8.99 \cdot 10^9 \text{ Nm}^2/\text{C}^2$$

$$e = 1.602 \cdot 10^{-19} \text{ C}$$

$$\epsilon_0 = 8.854 \cdot 10^{-12} \text{ F/m}$$