$$F_e = \frac{1}{4\pi\varepsilon_0}\frac{|Q_1||Q_2|}{r^2}$$

$$\vec{E} = \frac{\vec{F}_e}{Q}; \quad \vec{E} = -\overrightarrow{grad}\,\varphi$$

$$\varphi = \frac{1}{4\pi\varepsilon_0}\frac{Q}{r}; \qquad U = \Delta\varphi$$

$$\Phi_E = \iint_S \vec{E}\cdot d\vec{S} = \frac{Q}{\varepsilon_0}$$

$$C = \varepsilon_0\varepsilon_r\frac{S}{d}; \qquad C = \frac{Q}{U}$$

$$W_e = \frac{1}{2}CU^2; \quad W_e = QU$$

$$\vec{p} = Q\vec{d}; \quad \vec{M} = \vec{p}\times\vec{E}$$

$$C_p = C_1 + C_2; \quad C_s = \frac{C_1\cdot C_2}{C_1 + C_2}$$

$$I = \frac{dQ}{dt};\ P = UI;\ U = RI$$

$$d\vec{B} = \frac{\mu_0}{4\pi}\frac{I(d\vec{l}\times\vec{r}_0)}{r^2}$$

$$\oint \vec{H}d\vec{l} = \sum_k I_k$$

$$\vec{B} = \mu\vec{H}; \quad \mu = \mu_0\mu_r$$

$$\vec{F}_m = Q(\vec{v}\times\vec{B})$$

$$d\vec{F}_m = I(d\vec{l}\times\vec{B})$$

$$\vec{M} = \vec{\mu}\times\vec{B}; \quad \mu = NIS$$

$$\Phi_B = \iint_S \vec{B}\cdot d\vec{S}$$

$$\varepsilon_i = \oint \vec{E}\cdot d\vec{s} = -\frac{d\Phi_B}{dt}$$

$$\varepsilon_{MN} = \frac{W_{MN}}{Q}$$

$$L = \frac{\Phi}{I}; \qquad M = \frac{\Phi_2}{I_1}$$

Používejte hodnoty:

$\frac{1}{4\pi\varepsilon_0} \doteq 9\cdot10^9\,\mathrm{m\cdot F^{-1}}$
$\mu_0 = 4\pi10^{-7}\,\mathrm{H\cdot m^{-1}}$
$\varepsilon_0 = 8{,}85\cdot10^{-12}\,\mathrm{F\cdot m^{-1}}$
$g = 10\,\mathrm{m\cdot s^{-2}}$
$\ln 2 = 0{,}693$
$e = 1,6.10^{-19}\,\mathrm{C}$
$m_e = 9{,}1\cdot10^{-31}\,\mathrm{kg}$
$m_p = 1{,}67\cdot10^{-27}\,\mathrm{kg}$
$h = 6{,}63\cdot10^{-34}\,\mathrm{J\cdot s}$
$c = 3\cdot10^8\,\mathrm{m\cdot s^{-1}}$
$\sin 30^\circ = \cos 60^\circ = 0,5$
$\sin 60^\circ = \cos 30^\circ = \frac{\sqrt{3}}{2}$
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