38.) $v = 2 \cdot 10^6 \frac{m}{s}$ $I = 1\mu A$ $\frac{dN}{dt} = ?$ ha $l = 10cm$ $N_e = ?$ ha $r = 1cm$ $B = ?$

ha $B_K = 10^{-4} T$ $F = ?$ $\vec{v} \perp \vec{B}_K$

B_K (külső mág. indukció)

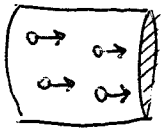
$I = \frac{dQ}{dt}$ $B = \frac{\mu_0 I}{2r\pi}$ $\vec{F} = q\vec{v} \times \vec{B}$

$$I = \frac{dQ}{dt} = \frac{d(qN)}{dt} = e\frac{dN}{dt} \qquad e = 1{,}6 \cdot 10^{-19} C$$

(egy részecske töltése)

$$\Downarrow$$

$\frac{dN}{dt}$ (1s alatt)



$v \cdot t = l \rightarrow t = \frac{l}{v}$ (t sec alatt)

$$N_e = \frac{dN}{dt} \cdot t = \frac{dN}{dt}\frac{l}{v} = \dots$$

$$B = \frac{\mu_0 I}{2r\pi} = \dots$$

$\mu_0 = 4\pi \cdot 10^{-7} \frac{Vs}{Am}$

$\vec{F} = e\vec{v} \times \vec{B}_K$

$(\vec{v} \perp \vec{B}_K)$

$F = evB_K = \dots$