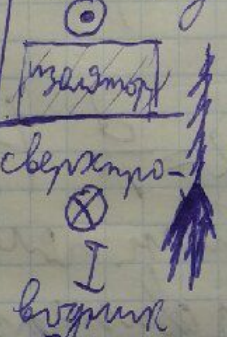


$$I = \frac{dq}{dt}; \quad \mathcal{E}_1 = -\frac{d\Phi}{dt} \Rightarrow \Delta\Phi = \frac{\Delta\Phi}{R}$$

$$\Delta\Phi = S(B\cos 90^\circ - B\cos 0^\circ) = BS$$

0 прыма 8 негледзі

N6.35 | Дзеяслова; неможа ўздымацца

Дано: I  B h $F_A \geq F_{\text{max}}$ (1)

$$h = 5 \text{ mm} \quad R = 10 \text{ Ohm} \quad m = 1.2 \text{ g}$$

$$F_A = \frac{B I l}{c} ; F_{\text{max}} = mg$$

$$B = \frac{2I}{c \cdot 2h} = \frac{I}{ch} ; l = 2R$$

$$(1) \quad \frac{I^2 2R}{c \cdot 2h} \geq mg \Rightarrow I \geq c \sqrt{\frac{mgh}{2R}}$$

$$= 8.4 \cdot 10^{10} \text{ G} = 28 \text{ A} \Rightarrow \text{Answer: } I \geq 28 \text{ A.}$$

N8.9 | Дзеяслова;

$$F_k = qE = e \cdot N \cdot E = e \cdot n \cdot V \cdot E =$$

Дано: $U = 10 \text{ kV}$

$$\Rightarrow E = \frac{4\pi e n S h}{2\pi a \cdot h} = \frac{2e n S}{a} \Rightarrow F_k = \frac{2e^2 n^2 S^2 h}{a} \quad (1)$$

масса э-на

$$F_A = \frac{1}{c} B I h; B = \frac{2I}{ac}; \frac{I}{S} = j = enV \Rightarrow I = enVS$$

$$F_A = \frac{2h}{c^2 a} e^2 n^2 V^2 S^2 \quad (2)$$

$$\frac{F_k}{F_A} = \frac{(1)}{(2)} = \frac{c^2}{V^2}$$

$$\} (1): \frac{mV^2}{2} = e \cdot U \Rightarrow V^2 = \frac{2eU}{m}$$

$$\frac{F_k}{F_A} = \frac{mc^2}{2eU} = \frac{9.1 \cdot 10^{-31} \cdot 9 \cdot 10^{18}}{2 \cdot 1.6 \cdot 10^{-19} \cdot 204} \approx 25.6$$

Ответ: 25.6.

н

Дано:

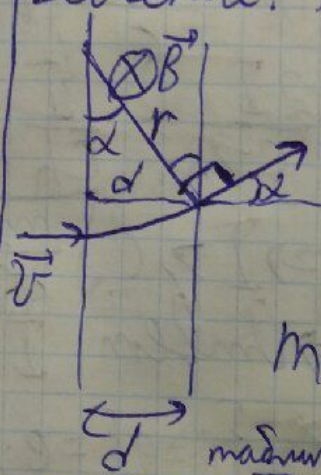
$$B = 5 \text{ Тл}$$

$$V = 2.4 \cdot 10^{10} \frac{\text{см}}{\text{с}}$$

$$d = 50 \text{ см}$$

$$\alpha = ?$$

Решение: $\sin \alpha = \frac{d}{r} \quad (1)$



B направлено перпендикулярно плоскости рисунка. $V \approx c$

$$m = \frac{m_0}{\sqrt{1 - \left(\frac{V}{c}\right)^2}} \quad \text{где}$$

m — масса, m_0 — масса покоя

II закон Лоренца: $m \frac{V^2}{r} = \frac{1}{c} e B V \Rightarrow \frac{1}{r} = \frac{e B}{m V c}$

$$(1) \alpha = \arcsin \left(\frac{e B}{m_0 V c} \sqrt{1 - \left(\frac{V}{c}\right)^2} \right) \approx 37^\circ \quad \text{Ответ: } 37^\circ$$