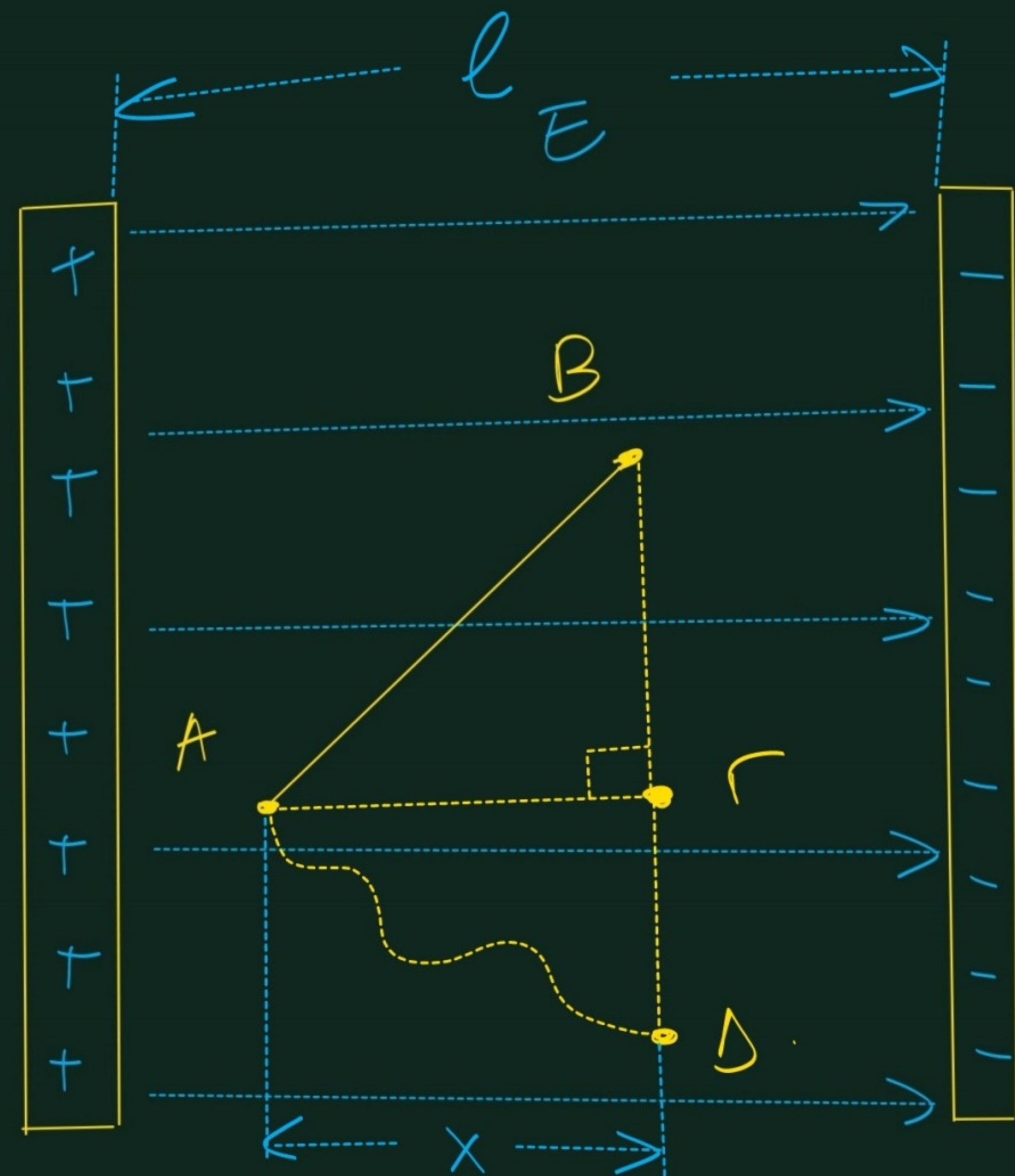




$$V_A - V_B = V_A - V_\Gamma = V_A - V_\Delta$$

$$E = \frac{V_A - V_B}{x} = \frac{V_A - V_\Gamma}{x}$$

Αρα: $V_A - V_\Gamma = E \cdot x$

Αν η απόσταση μεταξύ των Α και Γ είναι l τότε:

$$E = \frac{V_+ - V_-}{l} \Rightarrow E = \frac{V}{l}$$

V = τάση πλαισίων

$$\frac{1}{2} \cdot 10^{-2} \cdot v_r^2 = 9 \cdot 10^9 \cdot 10^{-4} \cdot 2 \cdot 10^{-8} \cdot \frac{0,6 - 0,3}{0,6 \cdot 0,3} \Rightarrow$$

$$\frac{1}{2} \cdot 10^{-2} \cdot v_r^2 = 18 \cdot 10^{-3} \cdot \frac{0,3}{0,18} \Rightarrow$$

$$\frac{1}{2} \cdot 10^{-2} \cdot v_r^2 = \frac{18 \cdot 3 \cdot 10^{-3} \cdot 10^{-1}}{18 \cdot 10^{-2}} \Rightarrow$$

$$v_r^2 = \frac{6 \cdot 10^{-3} \cdot 10^{-1}}{10^{-4}} \Rightarrow v_r^2 = 6 \Rightarrow v_r = \sqrt{6} \text{ m/s}$$

$$b) \Delta ME: (B) \rightarrow (\infty)$$

$$K_B + U_B = K_\infty + U_\infty \Rightarrow$$

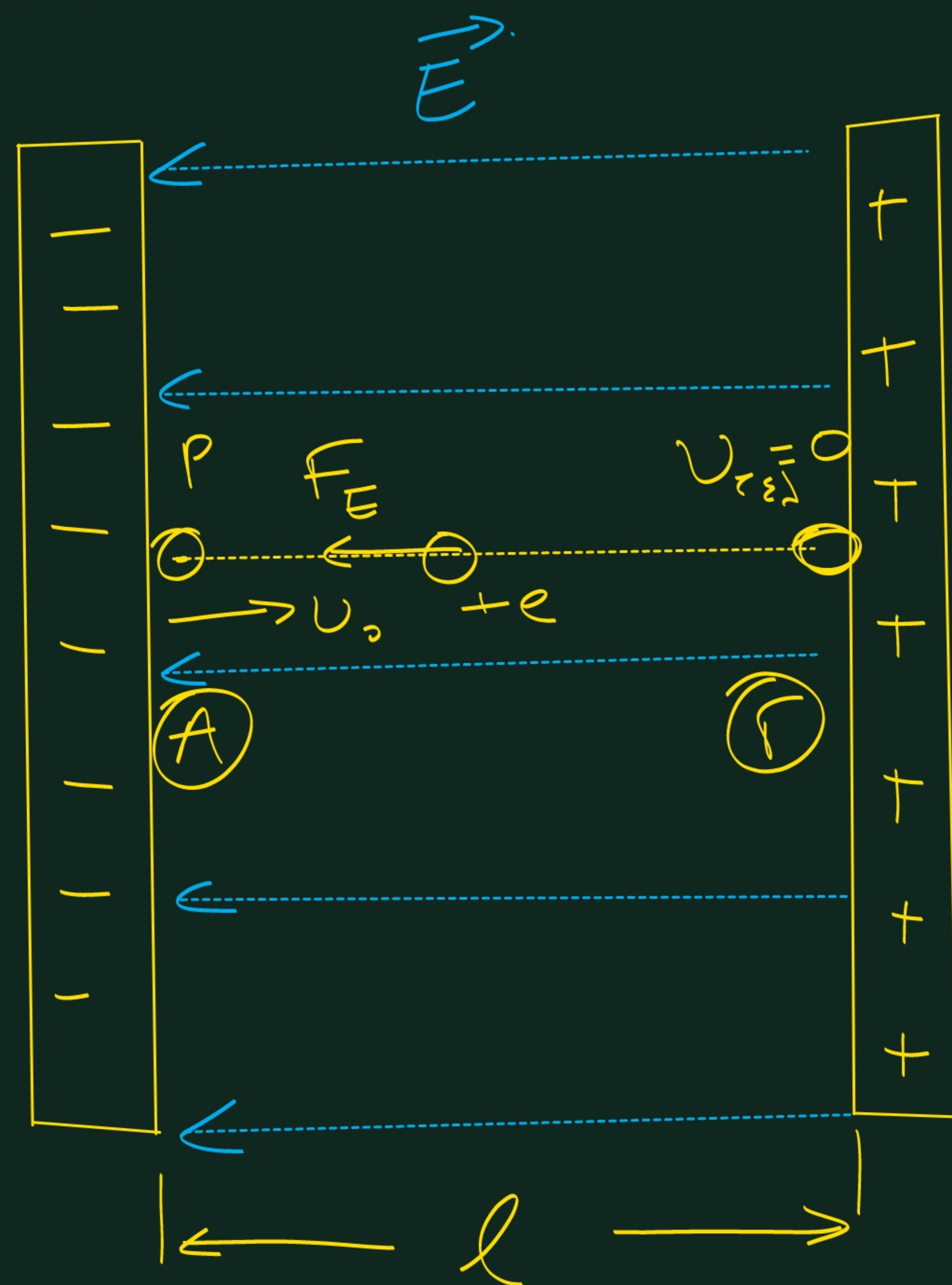
$$0 + K_c \frac{Qq}{r_1} = \frac{1}{2} m v_\infty^2 + 0 \Rightarrow$$

$$\frac{1}{2} m \cdot v_\infty^2 = \frac{K_c Q \cdot q}{r_1} \Rightarrow v_\infty^2 = \frac{2 K_c Q q}{m \cdot r_1} \Rightarrow$$

$$v_\infty^2 = \frac{2 \cdot 9 \cdot 10^9 \cdot 10^{-4} \cdot 2 \cdot 10^{-8}}{10^{-2} \cdot 0,3} \Rightarrow$$

$$v_\infty^2 = \frac{18 \cdot 2 \cdot 10^{-3}}{3 \cdot 10^{-3}} = \frac{36}{3} = 12 \Rightarrow v_\infty = \sqrt{12} \Rightarrow v_\infty = 2\sqrt{3} \text{ m/s}$$

Абу. 91 682.200.



$$q_p = +e.$$

$$F_E = q_p \cdot E = e \cdot \frac{V}{l} \quad (\text{от } \alpha \theta \varepsilon \rho \eta).$$

$$\text{ЭМКЕ: } (A) \rightarrow (r).$$

$$\Delta K = \sum W \Rightarrow K_r - K_A = W_{F_E}(A \rightarrow r) \Rightarrow$$

$$0 - \frac{1}{2} m_p v_0^2 = -F_E \cdot l \Rightarrow$$

$$\frac{1}{2} m_p \cdot v_0^2 = e \cdot \frac{V}{l} \cdot l \Rightarrow \frac{1}{2} m v_0^2 = eV \Rightarrow$$

$$V = \frac{m v_0^2}{2e} \Rightarrow V = \frac{1.6 \cdot 10^{-27} (5 \cdot 10^5)^2}{2 \cdot 1.6 \cdot 10^{-19}} \Rightarrow$$

$$V = \frac{10^{-27} \cdot 25 \cdot 10^{10}}{2 \cdot 10^{-19}} = \frac{25}{2} \cdot \frac{10^{-17}}{10^{-19}} = 12.5 \cdot 10^2 = 1250 \text{ Volt.}$$

Abu. 92 682.200.

$$m = 0,5 \text{ g} = 0,5 \cdot 10^{-3} \text{ kg} = 5 \cdot 10^{-4} \text{ kg}.$$

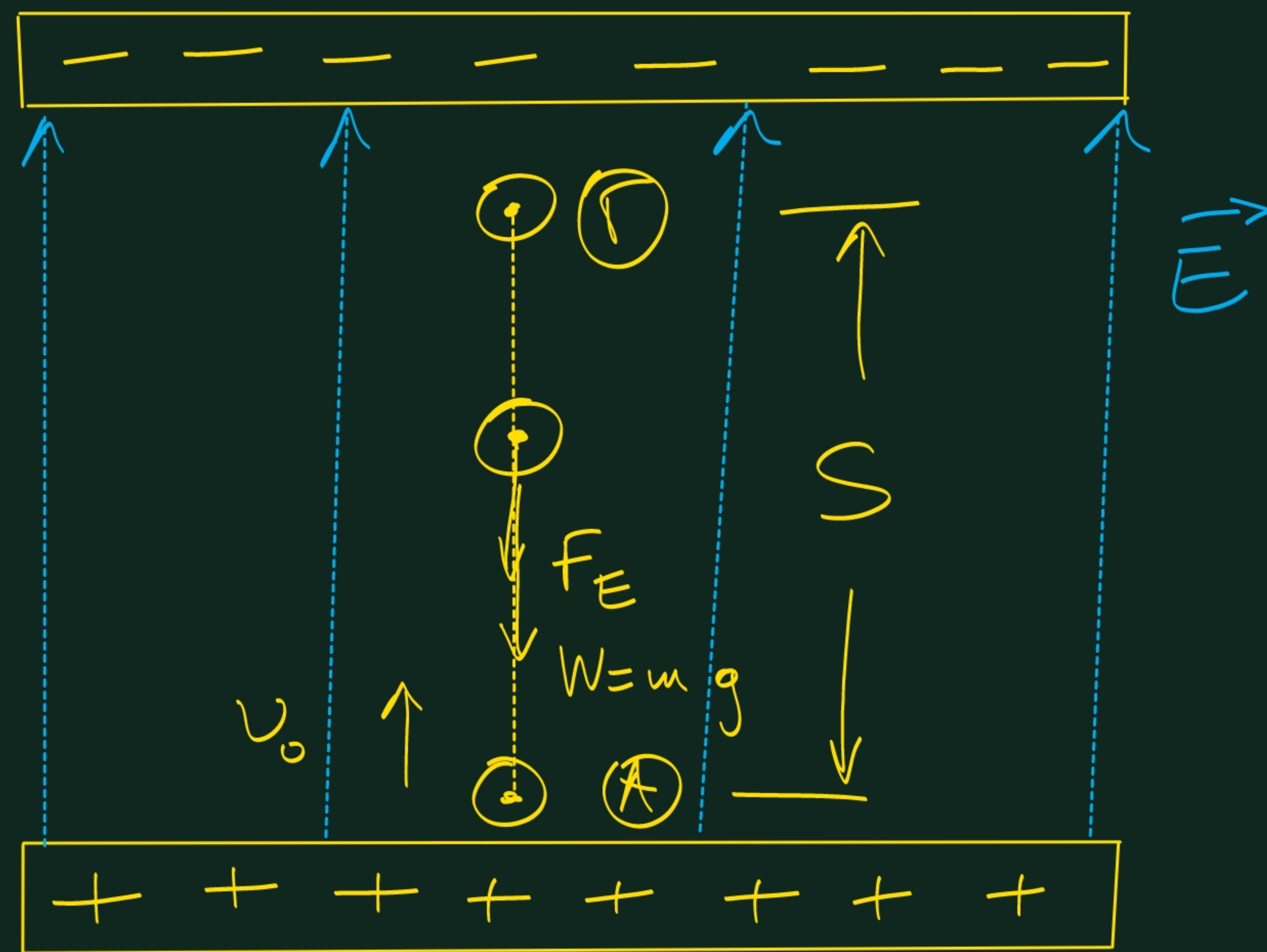
$$v_0 = 85 \text{ cm/s} = 85 \cdot 10^{-2} \text{ m/s}.$$

$$q = -10^{-8} \text{ C}$$

$$V = 4 \text{ kV} = 4 \cdot 10^3 \text{ Volt}.$$

$$d = 4 \text{ cm} = 4 \cdot 10^{-2} \text{ m}.$$

$$g = 10 \text{ m/s}^2$$



$$F_E = |q| \cdot E = |q| \cdot \frac{V}{d}$$