

Settimana: 14

Argomenti:

Materia: Fisica

Classe: 5F

Data: 19/01/26

Pag 222 n3G



$$q_A = 3,68 \cdot 10^{-8} C$$

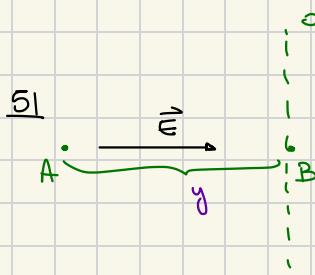
$$q_B = -5,74 \cdot 10^{-9} C$$

$$d = 80 \text{ cm} = 0,8 \text{ m}$$

$$AP = 50 \text{ cm} = 0,5 \text{ m}$$

$$V_p = ?$$

$$V_p = \frac{q_A}{4\pi\epsilon_0 AP} + \frac{q_B}{4\pi\epsilon_0 (d-AP)} \approx 190 \text{ V}$$



$$\Delta V_{AB} = E \cdot (y_B - y_A) = -Ey = -2,4 \cdot 10^4 \text{ V}$$

$$E = 8 \cdot 10^4 \text{ N/C}$$

$$AB = 30 \text{ cm}$$

$$q = 3 \cdot 10^{-10} \text{ C}$$

si sposta da A a B.

$$\Delta V_{AB} = ? \quad W_{AB} = ?$$

$$\Rightarrow |\Delta V_{AB}| = E \cdot AB = 2,4 \cdot 10^4 \text{ V}$$

$$\Delta V_{AB} = \frac{\Delta U_{AB}}{q} = - \frac{W_{AB}}{q}$$

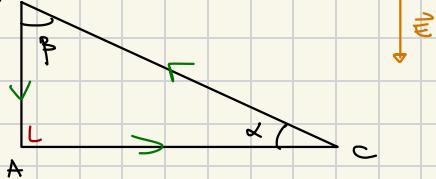
$$\Rightarrow W_{AB} = - \Delta V_{AB} \cdot q \approx$$

$$7,2 \cdot 10^{-6} \text{ J}$$

$\vec{E}$  lavora motore cioè  $q$  è aiutato da  $\vec{E}$  a spostarsi

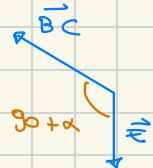
Di conseguenza  $\Delta V_{AB}$  deve essere Negativa  $\Delta V_{AB} = -2,4 \cdot 10^4 \text{ V}$

68

 $\vec{E}$ 

$$\Gamma_{ABC}(\vec{E}) = ?$$

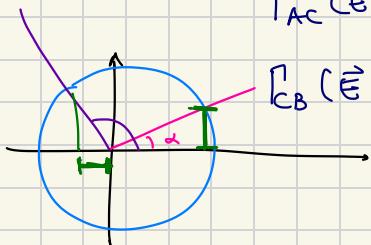
Totale = 0.



Nei vari tratti:

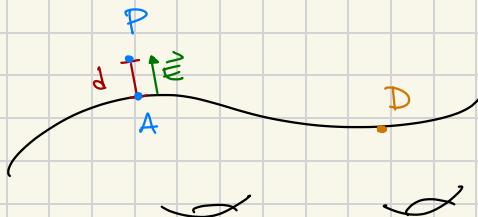
$$\Gamma_{AB}(\vec{E}) = \vec{E} \cdot \vec{AB} = E \cdot AB \cdot \cos 0^\circ = E \cdot AB.$$

$$\Gamma_{AC}(\vec{E}) = \vec{E} \cdot \vec{AC} = E \cdot AC \cdot \cos 90^\circ = 0$$



$$\begin{aligned} \Gamma_{CB}(\vec{E}) &= \vec{E} \cdot \vec{CB} = E \cdot CB \cdot \cos(90^\circ + \alpha) = \\ &= E \cdot CB \cdot (-\sin \alpha) \\ &= -E \cdot CB \sin \alpha = -E \cdot AB \end{aligned}$$

n 8 pag 262



$$d = 2 \text{ mm} = 2 \cdot 10^{-3} \text{ m}$$

$$V_p = 100 \text{ V}$$

$$V_A = 103 \text{ V}$$

$$V_D = ?$$

Quanto vale D' approssim?

 $\Rightarrow V_D = V_A$  poiché conduttore

$\Rightarrow E = \frac{|V|}{d}$  Dato che d molto piccole suppongo  $\vec{E}$  costante  
tra A e P.

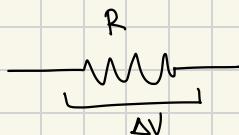
Di conseguenza  $\Delta V = E d$   $\Rightarrow$   $V_A - V_p = E \cdot d$

$$\frac{|V|}{d} = \frac{V_A - V_p}{d}$$

$$|V| = \frac{\Delta V}{d} \cdot E_0$$

n 16 pag 324

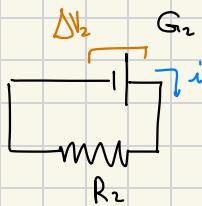
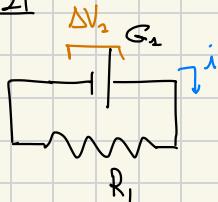
$$R = 2,0 \cdot 10^6 \Omega$$
$$\Delta V = 5 \cdot 10^2 V$$



$$i = ?$$

$$\Delta V = i R \rightsquigarrow i = \frac{\Delta V}{R}$$

n 21



$$\alpha R_1 = R_2 \quad \alpha \in \mathbb{R}^+$$

Stesse  $i$

Che relazione c'è fra  $\Delta V_1, \Delta V_2$

$$\Delta V_1 = i R_1$$

$$\Delta V_2 = i R_2$$

$$\frac{\Delta V_2}{R_1} = i$$

$$i = \frac{\Delta V_2}{R_2}$$

$$\rightsquigarrow \Delta V_1 \cdot R_2 = \Delta V_2 \cdot R_1$$
$$\Delta V_1 \cdot \cancel{R_1} = \Delta V_2 \cdot \cancel{R_1}$$

$$\Delta V_1 = \Delta V_2$$