

02

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$$V_A - V_B = \overline{E \cdot AB} \quad .1$$

$$U_{AB} = V_A - V_B = \overline{E \cdot AB} \Rightarrow U_{AB} = E \vec{i} \cdot (x_B - x_A) \vec{i}$$

$$\Rightarrow U_{AB} = E(x_B - x_A)$$

$$U_{AB} = 2.10^4 \times 2 \times 10.10^{-2} = 4000V$$

$$U_{BC} = V_B - V_C = \overline{E \cdot BC} \Rightarrow U_{BC} = E \vec{i} \cdot (x_C - x_B) \vec{i}$$

$$\Rightarrow U_{BC} = E(x_C - x_B) \Rightarrow U_{BC} = 4000V$$

$$U_{AC} = U_{AB} + U_{BC}$$

$$U_{AC} = 8000V$$

.2

$$E = \frac{U_1}{d_1} \Rightarrow d_1 = \frac{U_1}{E}$$

$$d_1 = \frac{5.10^3}{2.10^4} = 0,25m = 25cm$$

$$d_2 = \frac{15.10^3}{2.10^4} = 0,75m = 75cm$$

.3

$$\Delta E p_e = -W_{A \rightarrow B}(\overline{F_e})$$

$$W_{A \rightarrow B}(\overline{F_e}) = q(V_A - V_B) = -qU_{AB}$$

$$\Rightarrow \Delta E p_e = qU_{AB}$$

$$= 3 \times 1,6.10^{-19} \times -4000 = -1,9.10^{-15} J$$

$$\Delta E p_e = -\frac{1,9.10^{-15}}{1,6.10^{-19}} J = 1,2.10^4 eV$$

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