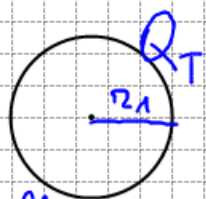


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sfera₁ $d_1 = 30 \text{ cm} = 0,3 \text{ m}$ $r_1 = 0,15 \text{ m}$

$V_1 = 5,0 \text{ kV} = 5,0 \times 10^3 \text{ V}$ $K_0 = 8,99 \times 10^9 \frac{\text{Nm}^2}{\text{C}^2}$

sfera₂ $d_2 = 15 \text{ cm} = 0,15 \text{ m}$ $r_2 = 0,075 \text{ m}$

$$Q_{\text{TOT}} = \frac{V_1 \cdot r_1}{K_0} = \frac{5,0 \times 10^3 \text{ V} \cdot 0,15 \text{ m}}{8,99 \times 10^9 \frac{\text{Nm}^2}{\text{C}^2}} = 8,34 \times 10^{-8} \text{ C}$$

$$\begin{cases} K_0 \frac{Q_1'}{r_1} = K_0 \frac{Q_2'}{r_2} \\ Q_T = Q_1' + Q_2' \end{cases} \quad \begin{cases} Q_1' = \frac{r_1}{r_2} Q_2' \\ Q_2' = Q_T - Q_1' \end{cases}$$

$$\begin{cases} Q_1' = \frac{r_1}{r_2} Q_2' \\ Q_2' = Q_T - \frac{r_1}{r_2} Q_2' \end{cases} \quad \begin{cases} Q_1' = \frac{r_1}{r_2} Q_2' \\ Q_2' \frac{r_2 + r_1}{r_2} = Q_T \end{cases}$$

$$\begin{cases} Q_1' = \frac{r_1}{r_2} \cdot \frac{r_2}{r_1 + r_2} Q_T \\ Q_2' = \frac{r_2}{r_1 + r_2} Q_T \end{cases} \quad \begin{cases} Q_1' = \frac{r_1}{r_1 + r_2} Q_T \\ Q_2' = \frac{r_2}{r_1 + r_2} Q_T \end{cases}$$

$$\begin{cases} Q_1' = \frac{15 \times 10^{-2}}{15 \times 10^{-2} + 7,5 \times 10^{-2}} \cdot 8,34 \times 10^{-8} \text{ C} = 5,56 \times 10^{-8} \text{ C} \\ Q_2' = \frac{7,5 \times 10^{-2}}{15 \times 10^{-2} + 7,5 \times 10^{-2}} \cdot 8,34 \times 10^{-8} \text{ C} = 2,78 \times 10^{-8} \text{ C} \end{cases}$$

$$V_1' = V_2' = K_0 \frac{Q_1'}{r_1} = 8,99 \times 10^9 \frac{\text{Nm}^2}{\text{C}^2} \times \frac{5,56 \times 10^{-8} \text{ C}}{0,15 \text{ m}} = 333,6 \times 10 \text{ V} = 3,34 \times 10^3 \text{ V}$$