

$$\begin{aligned}
A_{12} &= \int_1^2 F_{\text{эл}} \cos(\vec{F} \wedge d\vec{s}) ds = - \int_{R_1}^{R_2} \frac{kQq}{r^2} dr = \\
&= -kQq \int_{R_1}^{R_2} r^{-2} dr = kQq \left. \frac{1}{r} \right|_{R_1}^{R_2} = kQq \left(\frac{1}{R_2} - \frac{1}{R_1} \right). \quad (2.10)
\end{aligned}$$