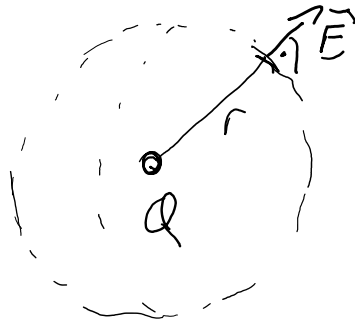


$$\vec{\nabla} \cdot \vec{E} = \rho / \epsilon_0$$

Punktladung



$$\begin{aligned} \Phi_{el} &= \epsilon_0 \vec{E}(r) \cdot 4\pi r^2 \cdot \hat{r} \\ &= Q \end{aligned}$$

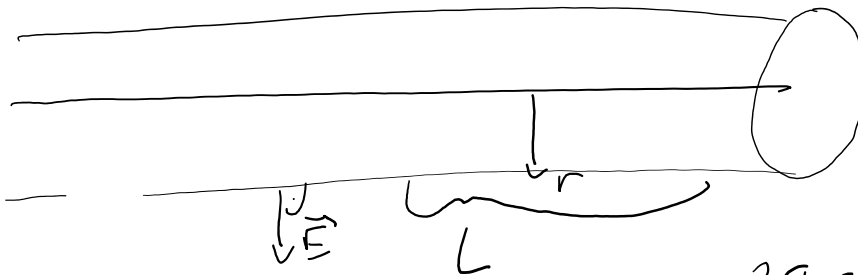
$$\Phi_{el} = \int \vec{D} \cdot d\vec{A}$$

↑  
el. Flussdichte

$$\vec{D} = \epsilon_0 \vec{E}$$

$$\vec{E} = \frac{Q}{4\pi\epsilon_0 r^2} \hat{r}$$

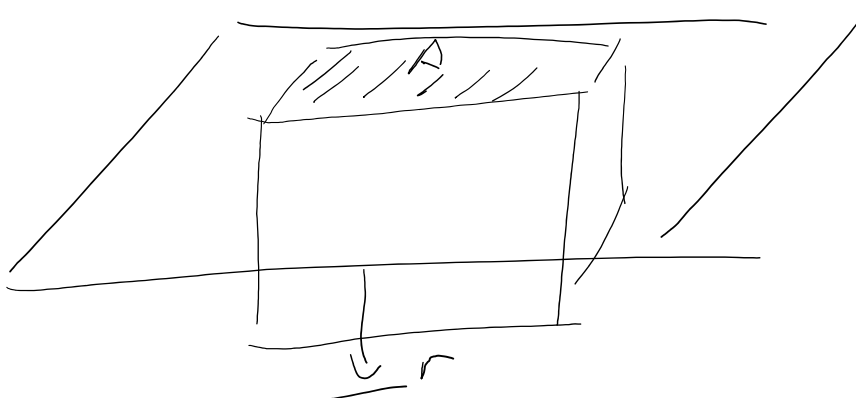
homogen gel. Draht



$$2\pi r \cdot L \cdot |\vec{E}| = \frac{Q}{\epsilon_0} = \frac{\lambda \cdot L}{\epsilon_0}$$

$$\vec{E} = \frac{\lambda}{2\pi\epsilon_0 r} \hat{r}$$

große Platte



$$|\vec{E}| \cdot 2A = \frac{Q}{\epsilon_0} = \frac{\sigma A}{\epsilon_0}$$

$$|\vec{E}| = \frac{\sigma}{2\epsilon_0}$$