

Electric Field

“What is the essence of an electric field?”

The electric field E at a point in space is simply the force per unit charge at that point.

$$\vec{E} \equiv \frac{\vec{F}}{q}$$

Electric field due to a point charged particle

$$\vec{E} = k \frac{Q}{r^2} \hat{r}$$

Superposition
$$\vec{E} = \sum_i k \frac{Q_i}{r_i^2} \hat{r}_i$$

Field points toward negative and
Away from positive charges.

