



	planar source	point source	SI unit
electric field	$\vec{E} = -E_y \hat{j}$	$\vec{E} = \frac{kQ}{r^2} \hat{r}$	[N/C]=[V/m]
electric potential	$V = E_y y$	$V = \frac{kQ}{r}$	[V]=[J/C]
electric force	$\vec{F} = q\vec{E} = -qE_y \hat{j}$	$\vec{F} = q\vec{E} = \frac{kQq}{r^2} \hat{r}$	[N]
electric potential energy	$U = qV = qE_y y$	$U = qV = \frac{kQq}{r}$	[J]

Electric field  $\vec{E}$  is present at points in space.

Points in space are at electric potential  $V$ .

Charged particles experience electric force  $\vec{F} = q\vec{E}$ .

Charged particles have electric potential energy  $U = qV$ .