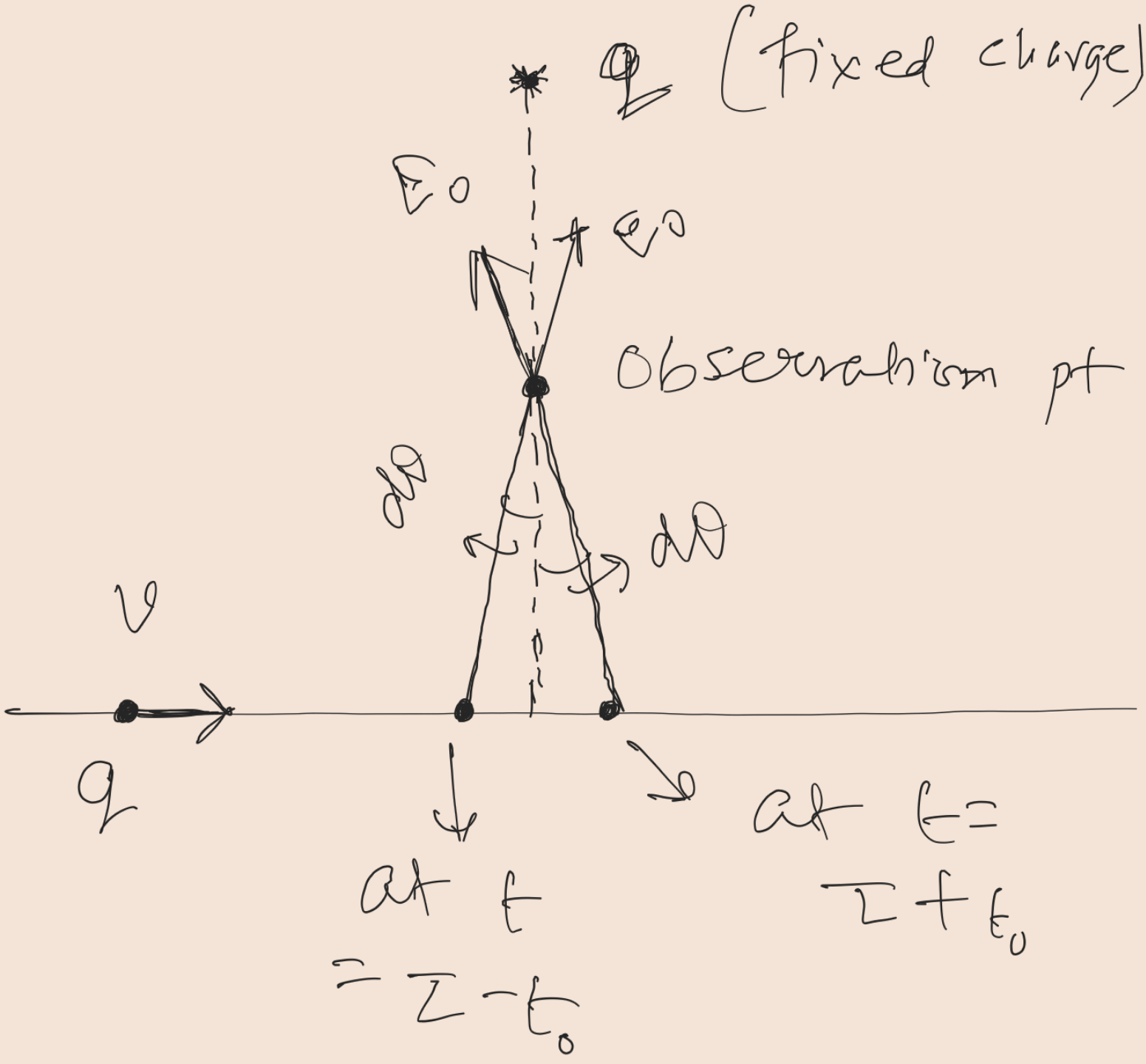
The symmetry of the situation has already been described in hint.



We draw two instances of the moving charge, at

$T + t_0$ & $T - t_0$. We see that between $t = T - t_0$ and $t = T$, the only change in field at obs' point is in horizontal component of 'E', that is

$E_0 \sin(d\theta) = E_0 \, d\theta$.

So, $\frac{dE}{dt} = E_0 \left(\frac{d\theta}{dt}\right)$. Let velocity of particle be 'v'. $\frac{d\theta}{dt} = \frac{v_0}{r_0}$. From graph, $\left(\frac{dE}{dt}\right)$ at $t = T_{(-)}$

is $\frac{\varepsilon_0}{\varepsilon_0}$. So, $\frac{\varepsilon_0 V_0}{\gamma_0}$

$= \frac{\varepsilon_0}{\varepsilon_0}$. So, $\boxed{V_0 = \frac{\gamma_0}{\varepsilon_0}}$

The rest of the problem is self explanatory.