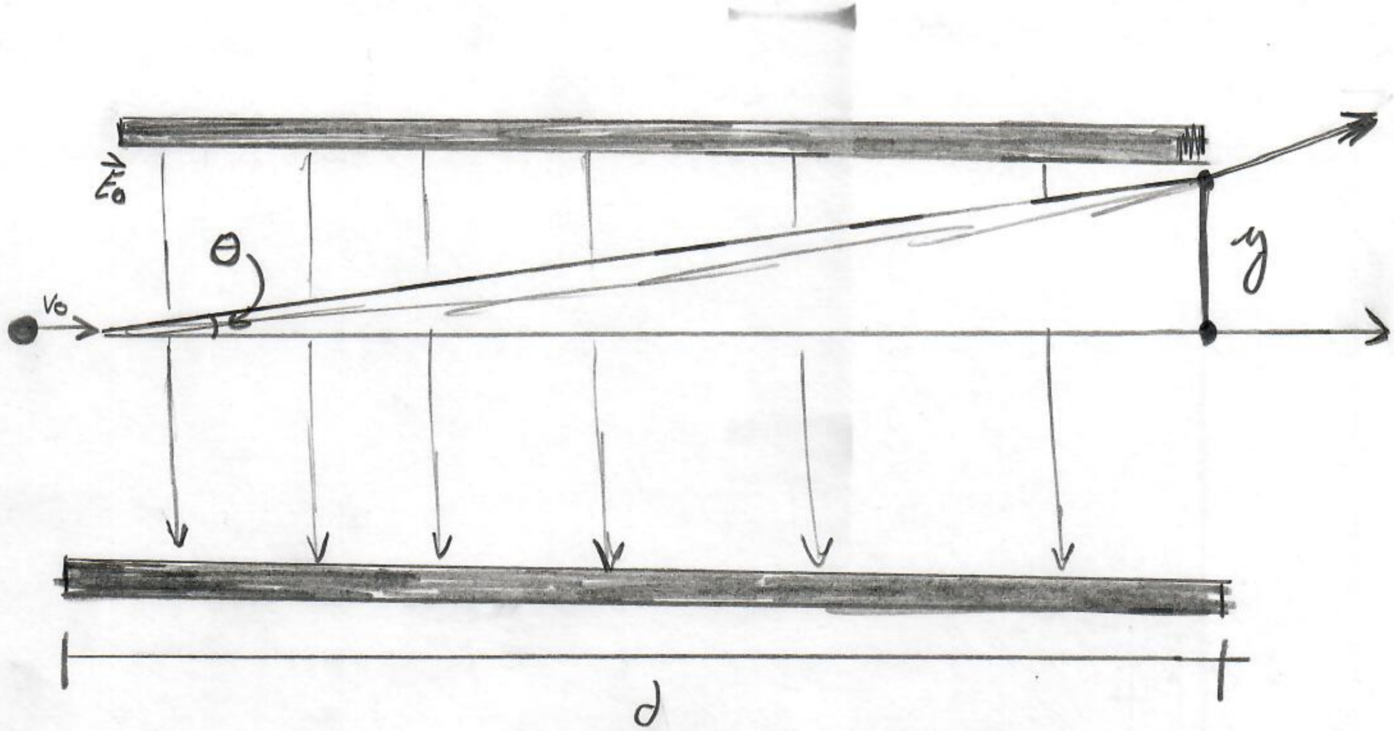


- Path altered by E field

$q = e = -1.602 \cdot 10^{-19} C$ = - charge

$\vec{F}_{net} = q(E + V \times \beta)$
$= qE$

$F_E = qE_0$

$F = ma$

$\frac{qE_0}{m} = a$

E_0 = constant $\Rightarrow$ F = constant $\Rightarrow$ a = constant

Can use constant acceleration equations?

$V_0 = \frac{d}{t} \Rightarrow t = \frac{d}{V_0}$

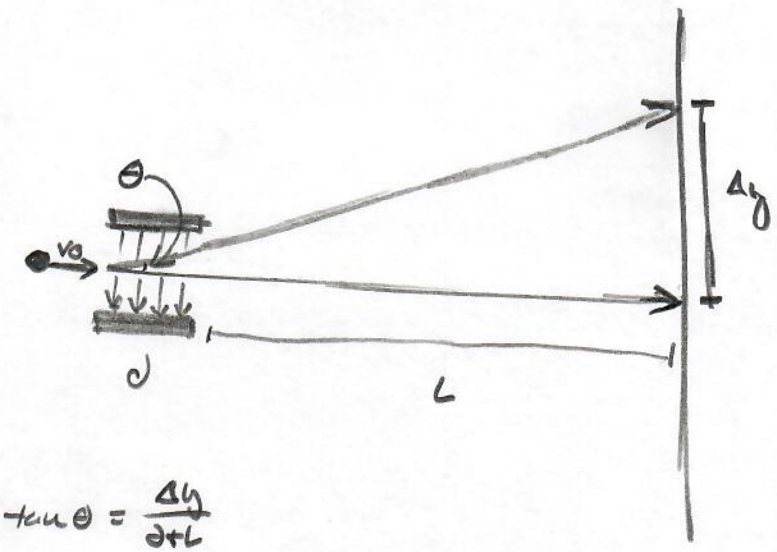
$y = y_0 + V_0 t + \frac{1}{2} a t^2$

$y = \frac{q E_0 d^2}{2 m V_0^2}$

$$\tan\theta = \frac{y}{d} = \frac{qE_0 d^2}{2mV_0^2}\cdot\frac{1}{d}$$

$$\theta = \arctan\left(\frac{qE_0 d}{2mV_0^2}\right)$$

<u>on a larger scale</u>



$$\tan\theta = \frac{\Delta y}{d+L}$$

$$(d+L)\tan\theta = \Delta y$$

$$(d+L)\tan(\arctan) = \Delta y$$

assuming e=q (variables given)

$$\boxed{\frac{(d+L)eE_0 d}{2mV_0^2} = \Delta y}$$

Not Correct.