

**Answer on question #68709, Physics / Electromagnetism**

**Question** a electron of mass  $M$  in rest in initial position. electron walk a certain distance in any electric field in time  $T_1$ . a proton mass of  $W$  in rest in initial position. like the electron proton also walk a same distance in same electric field in time  $T_2$ . if there is no any gravitational effect then what will be the value of  $T_2/T_1$ ?

**Solution** The relation of acceleration that proton and electron will is

$$\frac{a_2}{a_1} = \frac{W}{M}$$

The distance depends on acceleration and time as

$$s = at^2/2$$

Hence the relation of times is

$$\frac{t_2}{t_1} = \sqrt{\frac{a_1}{a_2}} = \sqrt{\frac{W}{M}}$$