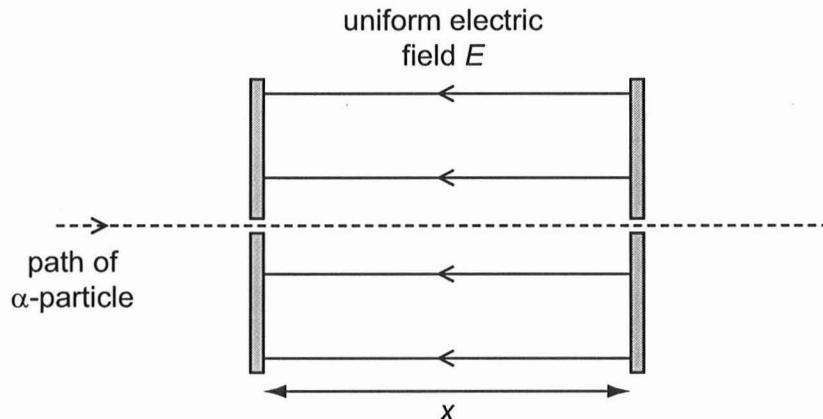


- 30 An α -particle of mass m travels through a uniform electric field of field strength E . It enters the field with velocity v and then travels a distance x in a direction opposite to the field, as shown.



What will be its speed when leaving the field? (e is the elementary charge.)

A $v - \sqrt{\frac{2eEx}{m}}$

B $\sqrt{v^2 - \frac{8eEx}{m}}$

C $v - \sqrt{\frac{4eEx}{m}}$

D $\sqrt{v^2 - \frac{4eEx}{m}}$