

Motion of Charge q in Uniform B Field

Force is perpendicular to v

Speed does not change

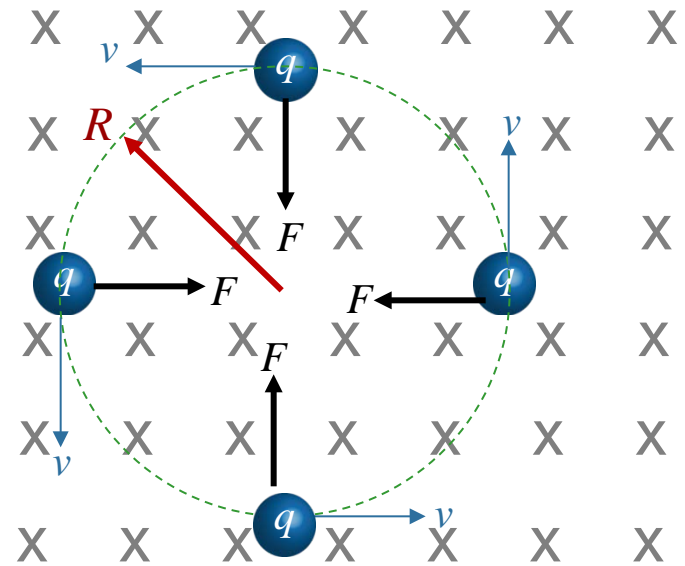
Uniform Circular Motion

Solve for R :

$$\vec{F} = q\vec{v} \times \vec{B} \Rightarrow F = qvB$$

$$a = \frac{v^2}{R}$$

$$qvB = m \frac{v^2}{R} \quad \longrightarrow \quad R = \frac{mv}{qB}$$



Uniform B into page

Demo