

Magnetic Fields

- Always form closed loops
- Can't isolate the poles
- \vec{B} -fields are only created by moving charges
- Only moving charges interact with a \vec{B} field
- Creation of \vec{B} or interaction with \vec{B} , have to deal with all 3-dimensions

Magnetic Force

- Centripetal
- $\vec{F}_m \perp \vec{v}$
- $\vec{F}_m \perp \vec{B}$

Lorentz Force:

$$\vec{F}_m = q(\vec{v} \times \vec{B})$$

Direction: RHR, if q is (-) flip 180°

Units: 1 N/Am = 1 tesla = 1 T

1 gauss = 1 G = 10^{-4} T

Equations

$$R = \frac{mv}{qB}$$