

Lecture 23

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1 Introduction to Magnetostatics

The magnetic field is always related to its source current through the **right hand rule**. According to the Lorentz Force Law, the magnetic force on a moving charge q in a magnetic field \vec{B} is

$$\vec{F} = q\vec{u} \times \vec{B} = -e\vec{u} \times \vec{B}$$

Total electromagnetic force is then

$$\vec{F} = q\vec{E} + q\vec{u} \times \vec{B}$$