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## Lorentz force in magnetism

Force experienced by charge particle moving in both electric and magnetic field present

### Derivation for expression of lorentz force in magnetism

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$$\vec{F}_e = q\vec{E}$$

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

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$$\vec{F} = \vec{F}_e + \vec{F}_m$$

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

### Expression of lorentz force in magnetism

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