

## Effect of Geomagnetic Field on Motion of Conductor

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**Abstract :** The first aim is to determine the effect of the Earth's magnetic field on the motion of a conductor to evaluate the variations of the orbital elements of the conductor due to these effects. The effects of Earth's magnetic field on the motion of conductors have been studied at different heights, longitudes and latitudes. When the conductor cut the geomagnetic line of force, then an electro-motive force (EMF) is induced across to the conductor. Due to this induced EMF, an induced current will flow through the conductor. Resulting, a Lorentz force will be applied on the conductor who opposes the motion of the conductor. So our second aim is to determine the accurate value of Induced EMF and induced Lorentz Force at different heights, longitudes and latitudes.

**Keywords :** induced EMF, Lorentz force, geomagnetic lines of force, moving conductor

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