



Study of Magnetic levitation and levitation of an object electromagnetically via magnetic suspension

¹Pardeep Lamba, Research Schoolar, ²Ankit

Magnetic levitation is the process of levitating an object by exploiting magnetic fields. In other words, it is overcoming the gravitational force on an object



© JRPS International Journal for Research Publication & Seminar

by applying a counteracting magnetic field. Either the magnetic force of repulsion or attraction can be used. In the case of magnetic attraction, the experiment is known as magnetic suspension. Using magnetic repulsion, it becomes magnetic levitation.

In the past, magnetic levitation was attempted by using permanent magnets. Attempts were made to find the correct arrangement of permanent magnets to levitate another smaller magnet, or to suspend a magnet or some other object made of a ferrous material. It was however, mathematically proven by “Earnshaw” that a static arrangement of permanent magnets or charges could not stably magnetically levitate an object

Apart from permanent magnets, other ways to produce magnetic fields can also be used to perform levitation. One of these is an electrodynamic system, which exploits Lenz’s law. When a magnet is moving relative to a conductor in close proximity, a current is induced within the conductor. This induced current will cause an opposing magnetic field. This opposing magnetic field can be used to levitate a magnet. This means of overcoming the restrictions identified by Earnshaw is referred to as oscillation.

**Note :For Complete
paper/article please
contact us info@jrps.in**

**Please don't forget to mention reference
number , volume number, issue number,
name of the authors and title of the
paper**