**ELECTROMAGNETIC BRAKING**

**Abstract**

In many of the transportation systems, an efficient and a long-lasting braking device is a crucial part of the overall system. A use of Electromagnetic (EM) braking system is introduced in this paper which can act as a supplementary brake to the regular friction-based brakes. This works by the principle of generation of Eddy currents in the rotating objects which induces a counter drag to the rotational motion. This way, the usage of EM brakes reduces the wear and tear of the braking systems by dissipating less heat to it. The major parts of an electromagnetic braking system are braking discs, Electromagnets, transformer and battery power.

An analytical study on the characteristics of different parameters and their variation with respect to each other and the types of materials used has been studied. The application of this kind of braking system in modern roller coaster systems is also described. The focus of Electromagnetic system is to increase the safety of the device meanwhile keeping the losses to minimum.