

Abstract

Throughout the history of mankind, magnetic phenomena have always attracted, first by intriguing and then by helping us to develop when we were able to understand and master its physical properties.

Magnetism has been studied throughout history and the subjects have diversified into several branches of applications.

The application that interests us here is that of magnetic and electromagnetic applied to small objects.

My approach in this thesis is to demonstrate that the application to rotating objects such as separators or pumps is possible, and that it is interesting to make this kind of bearing accessible both financially and mechanically.

Indeed, the goal is to replace conventional bearings to insert so-called magnetic bearings.