

# **MAGNETIC LEVITATION SUSPENSION CONTROL SYSTEM FOR REACTION WHEEL**

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## **ABSTRACT**

This paper deals with a non linear magnetic levitation suspension control system used for space applications. The system linearization and phase lead compensation techniques are used to control unstable non linear system. The system consists of power amplifier design, compensation of a unstable control system, and electromagnetic design for space craft applications.

Magnetic levitation of a metallic sphere provides a high-impact visual demonstration of many principles in undergraduate educational programs in electrical engineering. plus derivative (PD) compensation strategy is used to implement a plant transfer function.

**KEYWORDS:** Magnetic Suspension, Reaction Wheel Control, Non Linear Control System