

# Voltage Amplitude Control of Electromagnetic Levitation Device

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## Abstract

This research presents a voltage control method of an electromagnetic levitation device. Finite element method is used to model the device known as Team Workshop Problem 28. Proportional-Integral controller of sinusoidal voltage amplitude ensures a needed levitator position. The levitation device equations and the controller equations are coupled and sequentially solved in control loop. A model for solving the control problem is presented. In numerical example a case of position control is examined. An amplitude value of sinusoidal voltage applied on coils for a given position is determined.