

Analysis of Thrust Constant, Electrical and Mechanical Time Constant for Slot-Less Moving Magnet Linear Oscillatory Actuator

ABSTRACT

This paper present the analysis of thrust constant, electrical and mechanical time constant for slot-less moving magnet linear oscillatory actuator (LOA) using Permeance Analysis Method (PAM) by changing various parameter of LOA structure. The results show that LOA structure has high impact on the thrust constant, electrical and mechanical time constant. A prototype of LOA was designed and developed. Based on its result analysis, the measurement result shows good agreement with the analysis result.

Keyword: linear oscillatory actuator, permeance, thrust constant, electrical time constant, mechanical time constant