AN OVERVIEW OF CONTINUOUS AND DISCRETE SLIDING MODE CONTROL
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ABSTRACT
Sliding Mode Control (SMC) is an elite strategy which is based on variable structure system (VSS) and design of discontinuous feedback theory. Currently, it is one of the most popular research topics among the control engineers due to some of its advantageous attributes. SMC is extensively studied for practical applications because it is simple and robust against parametric variations and disturbances. This paper gives brief review of SMC theory with the controller design methodology in both continuous and discrete time domain. The performance is analyzed on the simulated highly non-linear magnetic levitation (MAGLEV) system. This paper also highlights some of the SMC limitations, successful engineering applications and its future perspectives.

KEYWORDS: VSS, Sliding Mode Control, Continuous Sliding Mode (CSMC), Discrete Sliding Mode (DSMC), Chattering, MAGLEV