Abstract

In this paper, a model reference adaptive control is designed for perfect tracking of moveable electrode of an electrostatic microactuator. The adaptive control of the nonlinear model of this microactuator is constituted feedback control and adaptation law. A Lyapunov function is presented that it guarantees perfect tracking and parameter convergences. The simulation shows designed adaptive control to have robustness appropriately against limited parameter varieties. Furthermore, input control is far from saturation condition.

Index Terms

Computer Science

Circuits And Systems
Keywords
Electrostatic microactuator  adaptive control  Lyapunov stability criterion.