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### 考虑传感器动力学的变结构控制

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### VARIABLE STRUCTURE CONTROL FOR SYSTEMS WITH CONSIDERATION OF THE DYNAMICS OF SENSORS

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摘要

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**摘要** 研究了状态不可测系统的变结构控制问题。构造了系统的状态观测器。为了分析系统的抖振,计入了传感器(测量装置)的动力学。在建立了由对象、观测器和传感器组成的系统的动力学方程之后,研究了滑动模态的稳定性及其特性,并用趋近律方法构造出了变结构控制,还给出了关于抖振的又一解释。

**关键词:** 控制系统设计 传感器 观测

**Abstract:** The variable structure control(VSC)for systems where the state of the system is unmeasurable is studied.State observer with measured output from the system is constructed and the dynamics of the sensor is also taken into account as a part of the whole dynamic system. AVSC for the whole system is established via the so-called"reaching law method".The sliding mode and its stability are studied.At last an interpretation to the chattering in VSC system is given.

**Keywords:** control system design sensors observation

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