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POSIX零星事件调度策略的研究与实现

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摘要 随着实时嵌入式系统结构的日益复杂, 运行环境的不确定因素增多, 零星事件调度越来越受到专家学者的重视。以“磁滞陀螺电机高频电源的研制”项目为课题背景, 参考国际标准, 将基于POSIX规范的零星事件调度方法引入现有系统中, 提高了系统的鲁棒性和实时性。为了验证改进后的系统性能, 用硬件电路产生真随机二值信号, 模拟零星事件。实践证明, 引入零星事件调度后, 系统具有更好的鲁棒性。零星事件调度方法可以应用到混杂系统的调度决策层中, 以提高系统的综合性能。

关键词 [零星事件调度](#) [混杂系统](#) [可移植的操作系统接口规范](#) [μC/OS-II](#)

分类号

Research and realization of sporadic task scheduling based on POSIX

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Abstract

Sporadic task scheduling is attracting more and more experts as the structure of real time embedded system becoming more and more complicated and its running environment with much uncertainty. This paper is based on project “power design for the precision high frequency magnetism motor”, it introduces standardized POSIX sporadic task scheduling method into original system and improves the robust and real-time characteristic of the whole system. A hardware circuit is used to produce random 0-1 signals to simulate sporadic tasks and the result proves it works very well. Sporadic task scheduling method can be utilized into the scheduling and decision layer of hybrid system in order to improve its performance.

Key words [sporadic task scheduling](#) [hybrid system](#) [Portable Operating System Interface for Computing Environments \(POSIX\)](#) [standardization](#) [μC/OS-II](#)

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