

## 基于 RTX 的实时通用测控软件设计与实现

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**摘要:** 针对 Windows 系统实时性不足、传统实时测控软件通用性不强的问题, 应用 RTX 技术增强 Windows 实时性, 采用灵活的脚本语言描述测试任务增强实时测控软件通用性; 设计并实现了基于 RTX 的实时通用测控软件平台; 重点阐述了软件设计与实现过程中的设备识别、脚本规范设计、I/O 驱动开发等关键技术. 实验结果表明: 一方面, RTX 技术的应用解决了 Windows 系统实时性不足的问题, 另一方面, 设计的软件能够通过编辑执行不同测试脚本完成不同测试任务, 对解决实时测控软件通用性不强的问题具有重要意义.

**关键词:** 实时性; 通用性; 实时扩展技术; 脚本技术; 测试任务

## Design and Realization of Real-Time General Measurement and Control Software Based on RTX

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**Abstract:** For Windows system shortage of real-time monitoring and traditional control software are not universal, apply RTX technology to enhance real-time Windows, use flexible scripting language to describe the test tasks, enhanced real-time monitoring and control software commonality; design and implement real-time monitoring and control software system based on RTX; describe the software design and implementation of key technologies, such as device identification, script specification design, I/O-driven development. The results show that on the one hand, RTX technology application solves the problem of lack of real-time Windows system, on the other hand, the design of the software system is able to complete different testing tasks by editing and performing different test scripts, and has great significance to solve the problem that Real-time monitoring and control software versatility is not strong.

**Key words:** real-time; versatility; real-time extension technology; scripting technology; test tasks

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