技术及应用

基于ARM、CPLD和MCU的冷却储存环真空控制系统设计

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摘要　　为核心进行实时多路数据采集和控制的冷却储存环（CSR）真空控制系统设计。着重分析了控制系统组成、工作原理、功能实现、硬件电路和软件开发。该控制系统具有适应性与灵活性强、响应速度快、精度高、稳定性好、可靠性高、性价比优越、自我连锁保护等优点，现已成功应用于CSR真空控制系统中。

关键词　　ARM　CPLD　控制器　真空控制系统　MSP430
分类号

Development of Cooler Storage Ring Vacuum Control System
Based on ARM, CPLD and MCU

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Abstract A real-time multi-channel vacuum control system based on ARM (S3C4510B), CPLD (XC95288XL) and MCU (MSP430F149) was developed. The constitution and the working principle of the system, the function of the controller, the hardware and software design were described. The system has the characteristics of strong adaptability and flexibility, high response speed, high precision, good stability, high reliability and ascendant quality-to-cost interlock protection etc. The controller has been used in cooler storage ring (CSR) vacuum control system.

Key words ARM ＿ CPLD ＿ controller ＿ vacuum control system ＿ MSP430

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