

## 基于嵌入式 Linux 的智能家居照明节能

### 控制系统研究与实现

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**摘要:** 设计并实现了基于嵌入式 Linux 的智能家居照明节能控制系统, 依据智能家居照明节能控制系统的功能需求, 综合分析整个系统的成本和开发进度控制需求, 给出基于 Linux 的智能家居照明节能控制系统的硬件总体结构, 将 S3C2410A 作为核心处理器, 介绍了 ZigBee 接口电路、WIFI 接口电路和照明节能控制电路的设计过程. 在对智能家居照明节能控制系统进行软件设计时, 选用嵌入式 Linux 操作系统, 给出照明节能控制引导程序的详细代码. 实验结果表明, 所设计系统不仅节能效果佳, 而且性能优异.

**关键词:** 嵌入式 Linux; 智能家居; 照明节能控制

## Smart Home Based on Embedded Linux Lighting Energy Saving

### Research and Implementation of Control System Design

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**Abstract:** Design a smart home lighting energy-saving control system based on Embedded Linux, according to the smart home lighting energy-saving control system functional requirements, analyse the whole system development cost and schedule control demand are Linux smart home lighting energy-saving control the overall structure of the system hardware and the s3c2410a as the core processor based on, and introduce the interface circuit of ZigBee, WiFi interface circuit and the lighting energy-saving control circuit design process. In the intelligent home lighting energy saving control system for software design, the use of embedded Linux operating system, given the lighting energy saving control of the program code. The experimental results show that the designed system not only has good energy saving effect, but also has excellent performance in the system.

**Key words:** embedded Linux; smart home; lighting energy saving control

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