
升降横移式立体车库的结构

设计与功能实现

摘要

目前，我国经济正处于快速发展时期，并且伴随着城市现代化建设步伐的不断加快，然而当下汽车保有量呈直线增长，相应的车位规划却未随着进行，这将导致现代城市建设发展出现阻碍。就现存问题而言，其问题主要出现的场所位于写字楼、商业区等，怎样才能更加合理且科学的将土地资源进行合理规划利用，使得快捷、高效、快速以及便捷的相关设备和管理信息系统来缓解以上三大区域的停车难已成为城市建设亟待解决的问题。

对于立体车库的研究现状均以进行了较为充分调研，主要是对针对目前国内外研究情况进行研究分析，基于此本文将升降横移立体车库作为研究对象，重点是对升降横移类型立体车库相关结构进行了重新设计，使用的原理有：载车板、立柱、横移机构、升降以及安全辅助机构等，对其进行了优化，使得新的升降横移立体车库信息管理系统的模型被设计研发，借助于计算机技术、移动互联网技术、车牌图像识别技术等实现车位的寻找停靠。

本文所提出的新的升降横移立体车库结构设计，为理论性开发，给出自主自主设计研究方法，能够使得现代城市出现的交通拥堵得到缓解，并为此提供新的解决思路，为其提供新的设计依据，为智慧城市快速发展提供了新的系统模式，促进了城市的通行能力。

关键词：立体车库；升降横移；管理系统；PLC

Abstract

At present, my country's economy is in a period of rapid development, and with the continuous acceleration of the pace of urban modernization, the current car ownership is increasing linearly, and the corresponding parking space planning has not followed, which will cause obstacles to the development of modern urban construction. As far as the existing problems are concerned, the places where the problems mainly occur are located in office buildings, commercial districts, etc. How can we rationally and scientifically plan and utilize land resources so as to make relevant equipment and management information systems fast, efficient, fast and convenient? Relieving parking difficulties in the above three areas has become an urgent problem for urban construction.

The research status of three-dimensional garages has been fully investigated, mainly to research and analyze the current domestic and foreign research situations. Based on this, this article will take the lifting and transversal stereo garage as the research object, and the focus is on the lifting and transversal stereo garage. The structure has been redesigned, and the principles used are: car loading plate, column, lateral movement mechanism, lifting and safety auxiliary mechanism, etc., which have been optimized, so that the model of the new lifting and lateral movement three-dimensional garage information management system is designed and developed , With the help of computer technology, mobile Internet technology, license plate image recognition technology, etc. to achieve parking spaces to find and stop.

In this paper, the structural design, control scheme design and theoretical development of the information management system of the lifting and horizontal

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