

论文 极大望远镜基于FPGA的大批量位移促动器实时高精度控制的研究

戚永军, 倪季君

中国科学院国家天文台南京天文光学技术研究所, 南京 210042; 中国科学院天文光学技术重点实验室, 南京 210042; 中国科学院研究生院, 北京 100049

摘要:

运用现场可编程门阵列(FPGA)并发执行的特点,提出一种并行实时控制方法,其核心在于构建产生位移促动器控制信号的模块.重点介绍了如何使用底层硬件语言构建控制模块,并对它进行功能仿真.对控制系统硬件平台和软件平台的实现也做了一定介绍.

关键词: 极大望远镜 现场可编程门阵列 位移促动器 并行实时控制 控制模块

Study on the real-time high precision control of large quantity displacement actuators for extremely large telescope based on FPGA

Qi Yong-Jun, Ni Ji-Jun

National Astronomical Observatories / Nanjing Institute of Astronomical Optics & Technology, Chinese Academy of Sciences, Nanjing 210042, China; Key Laboratory of Astronomical Optics & Technology, Nanjing Institute of Astronomical Optics & Technology, Chinese Academy of Sciences, Nanjing 210042, China; Graduate University, Chinese Academy of Sciences, Beijing 100049, China

Abstract:

We present a concurrent execution method for control of large quantity displacement actuators for extremely large telescope based on FPGA technology, and the key is to build a control module which generates the control signals of displacement actuators. The construction and simulation using low-level verilog hardware language is described in detail, and the implementation of hardware and software systems is also described.

Keywords: enormous telescope FPGA displacement actuator concurrent execution control module

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通讯作者:

作者简介:

作者Email: jjni@niaot.ac.cn

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