题 目: 悬索桥钢丝绳检测仪牵引装置

## 摘要

悬索桥所使用的牵引装置都普遍存在着钢丝绳松弛磨损的问题,尤其是悬索桥提升设备上使用的钢丝绳,问题在于钢丝的磨损,钢丝的直径被拉长了。加强张拉能力和钢丝绳的使用状态是保证起重设备能够正常运行的重要因素,所以一定要对钢丝绳定期进行试验,防止在运行中出现一些严重的问题。许多工厂继续采用人工检测技术,人工使用标志物检测电缆。传统的检测方法存在许多缺陷,比如说如果检测精度过低,在线实时检测不能够持续运行,容易频繁出错,这就会严重的影响到运行的安全可靠性。本文将研究的一种高效、自动化程度高的 CCD 非接触式实时在线测量钢缆检测新方法,特别的先进并且非常的实用,可以避免手工检测的缺陷。

关键词: 钢丝绳磨损;钢丝绳检测;非接触式测量; CCD 技术

## **Abstract**

The problem of wire rope relaxation and wear is common in the traction devices used in suspension bridges, especially in the lifting equipment of suspension bridges. The problem lies in the wear and tear of steel wires, and the diameter of steel wires is lengthened. Strengthen the tension ability and the use state of wire rope are the important factors to ensure the normal operation of lifting equipment, so it is necessary to test the wire rope regularly to prevent some serious problems in operation. Many factories continue to employ manual detection techniques and use markers to detect cables. There are many defects in traditional detection methods. For example, if the detection accuracy is too low, online real-time detection can not run continuously, and it is easy to make frequent errors, which will seriously affect the safety and reliability of operation. This paper will study an efficient and highly automated CCD non-contact real-time on-line measurement of cable detection method, especially advanced and very practical, can avoid the defects of manual detection.

Key words: wire rope wear; wire rope detection; non-contact measurement; CCD Technology.

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