

计量测试

CCD测量转速的新方法

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摘要 为了测量瞬时转速,对旋转体转速在空间坐标系中的关系进行了研究,并建立了旋转机械瞬时转速测量模型。利用线阵CCD技术设计了一种新型光学瞬时转速测量系统。该系统采用3级流水线结构对测量数据进行实时处理。测试结果表明,该方法解决了旋转机械瞬态性能分析中瞬态转速测量存在的缺陷,克服了传统转速测量方法在测量瞬时转速方面存在的不足,为瞬时速度测量提供了另一种思路。

关键词 [瞬时转速测量](#) [线阵CCD](#) [反射条纹](#) [速度压缩](#)

分类号

A novel method measuring rotation speed based on linear CCD

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Abstract In order to measure instantaneous rotation speed, the rotation speed of the shaft in the spatial coordinate system is investigated and the measurement model for measuring instantaneous rotation speed of rotation mechanism is proposed. A novel system for measuring the rotation speed is designed based on linear CCD and the real time processing of measurement data is carried out by three order structure. The test results show that the deficiencies of the instantaneous rotation speed measurement in the instantaneous characteristic analysis of rotation mechanism were solved. A simple speed compression model was build up and the reference for other speed measurement applications was provided.

Key words [instantaneous rotation speed measurement](#) [linear CCD](#) [reflection pattern](#) [speed compression](#)

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