

论文

辊型CCD检测法中轧辊轴线偏移的补偿

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摘要:

根据激光线阵CCD检测技术原理,提出一种快速、高准确度的轧辊辊型检测方法,阐述了系统组成与检测过程.针对辊型检测过程中易出现的轴线偏移现象,从垂直检测平面和平行检测平面两个方向采取补偿措施,有效地提高了系统检测准确度.同时检测系统对CCD信号进行处理时,采用浮动阈值法,有效降低噪音对CCD成像质量的影响,保证了系统的分辨率与检测准确度.实验证明,系统的检测准确度可达到实际生产过程中辊型检测的要求,为实现辊型在线检测的高速、高准确度、高自动化提供了一种新的研究方法.

关键词: 辊型 CCD 轴线偏移 补偿

Compensation for Axes Shifting during Detection of Roller Shape by CCD

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Abstract:

Based on the technology of laser-linear array CCD,a kind of high speed and high accuracy method on detecting the roller shape was put forward.Also the composition of the detective system and the operation process were expatiated.Aiming at the axes shifting of the roller during the detecting process,compensation steps were adopted from vertical and parallel the detecting surface.And it enhanced the accuracy of the detecting system effectively.At the same time the gradient intensity averaging method to process the signal of the CCD was adopted,which reduced the influence of the noise to the CCD image contrast,and enhanced the speed of data processing effectively.It also enhanced the accuracy and the resolution of the system remarkably.The experiments prove that the accuracy of the system can reach to the demand of practical production process.It provides a new method for the high speed,accurate and automatic on line detection of the roller shape.

Keywords: Roller shape CCD Axes shift Compensation

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