

光电工程

## 基于线阵CCD的测隙装置设计

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**摘要** 在工业现场, 传统的测量方式不能快速准确地测量微小尺寸。基于工业上小尺寸测量的需要, 设计了一种可用于测量间隙的光电检测装置。用线阵CCD(Charge Coupled Device)作光电接收传感装置, 单片机作主控处理器, 对齿轮和高频淬火感应器之间的间隙进行在线非接触测量, 取得了较好的测量效果。该方案适用于成本低但测量精度相对要求较高的场合。

**关键词** [线阵CCD](#) [测隙](#) [单片机](#) [非接触](#)

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## Design of Clearance Measuring Apparatus Based on Linear Array CCD

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**Abstract** At the industrial in site conditions, the small size can't be quickly and accurately measured by the traditional measurement way. Based on the need for small size measurement in industry, a kind of photoelectric measuring apparatus to clearance is designed in this paper. We use the linear array CCD (Charge Coupled Device) as a photoelectric sensor and singlechip computer as a main control unit to do the non contact and on line measurement of clearance between the gear and high frequency quenching inductor, and get a good measurement result. Therefor, the apparatus can monitor the production status and improve the working efficiency. This project is suitable for the application of low cost and high precision measurement.

**Key words** [linear array CCD](#) [clearance measurement](#) [single chip computer](#) [non-contact](#)

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