

研发、设计、测试

## 超声波测距系统的开发与研究

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**摘要** 论述一种用于移动探雷机器人越障的超声波测距系统。硬件上运用包络整形技术提高时间点检测的准确度, 软件上使用盲区处理、数理统计、稳定性检测、发射功率动态改变技术提高测量精度和减少盲区范围。实验证明系统具有测量盲区小、远近距离测量较稳定、精度符合工程指标的特点。可在需要测量盲区小、测量精度较高的环境中应用。

**关键词** [超声波测距](#) [测量盲区](#) [测量精度](#)

**分类号** [TB553](#)

## Ultrasonic ranging system development and research

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### Abstract

A new ultrasonic ranging system applied in the mine detection robot is discussed. Varieties of hardware and software technologies are used to enhance precision of time point detection and reduce the range of blind zone. Experiments prove that the blind zone is small, the performance is stable in far and near measure range, and the accuracy accords with engineering requirements in this system. It can be used in the environment which requires small measuring blind zone and relatively high measuring accuracy.

**Key words** [ultrasonic ranging](#) [measuring blind zone](#) [measuring accuracy](#)

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