

## WSN节点电池供电性能测试研究

作者: 吕涛, 施伟斌, 范坤坤, 杨凯, 余家宝, 孔维行, 龚艳庆, 孙凤, 巩艳庆

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摘要:

无线传感器网络的传感器节点主要依靠电池供电, 为保证节点能较长时间地稳定工作, 对电池的供电性能具有较高节点功耗测试网络, 提供了一种基于WSN的电池电压在线监测的方法, 测量误差范围在1%左右, 分别对镍氢电池和示, 在数据采集周期为2s~600s的情况下, 用普通镍氢电池为WSN节点供电只能维持其正常工作10天左右; 而使用200节点进行供电时, 可以维持节点长时间工作, 本文的工作可以为今后节点电源设计和节点生存时间估计提供参考。

关键词: 无线传感器网络; ZigBee协议; 镍氢电池; 太阳能供电; 生存时间

## The Study Of WSN Nodes Battery-powered Performance

**Author's Name:**

**Institution:**

**Abstract:**

Sensor nodes of wireless sensor networks rely mainly on battery power, to ensure the nodes can work stably for a long time, requirements. The authors has set up a network based on ZigBee protocol to test the power consumption of sensor nodes, i battery voltage based on WSN, the measuring error scope at about 1%, then the performance test of Ni-MH batteries and so experimental results show that, when the data collection period is from 2 seconds to 600 seconds, using ordinary Ni-MH batt its normal work 10 days or so ,while use 2000mAh lithium battery with a 0.7W solar panel powered sensor nodes, you can m: work of this paper can provide a reference for the next node power supply design and estimation of survival time.

**Keywords:** wireless sensor networks; ZigBee protocol; Ni-MH battery; solar power supply; survival time

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