

基于WSN的多声源目标定位算法

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摘要：

目标定位技术是无线传感器网络应用研究的一个重要领域，如何在传感器节点随机分布下，利用无源探测技术，对同时进入探测区域的多个目标进行实时的精确定位是目标定位的一个难点。本文基于声源能量衰减模型在最大似然算法的基础上，利用高斯-牛顿迭代算法解决了这个问题。通过对多个声源目标的仿真试验，结果表明，该算法实现了对多目标的精确定位，具有一定的实用价值。

关键词：无线传感网络；最大似然法；高斯-牛顿；多目标定位

Acoustic Multiple-Target Location In WSN

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Abstract:

The technology of target location is an important research field in WSN's application study. Under the condition of randomly distributed sensor nodes, it is difficult to make a quick and accurate locating for multiple-target entered into the detection field by adopting the technology of passive detection. Based on source energy attenuation model and maximum likelihood, the article uses the Gauss-Newton Iteration Algorithm and solves the problem of multiple-target localization. The emulation result shows that the algorithm realized the accurate location of multiple-target and possesses practical application value.

Keywords: Wireless Sensor Network; Maximum Likelihood; Gauss-newton; Multiple-target Location

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