基于正四棱锥形六元声阵列被动定位的研究

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摘　要：

声音无线传感器网络节点利用到达时间差（TDOA）原理进行声音目标定位，提出了一种正四棱锥形六元声音阵列定位模型。推导出了目标空间定位计算公式，应用广义互相关算法对时延进行估计。同时对模型误差进行了分析。最后通过仿真实验，可以对目标进行有效定位，定位误差小。

关键词：无线传感器网络节点，被动声定位，六元正四棱锥，误差分析

Research of Passive acoustic location Based on Rectangular pyramid array of six sensors

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Abstract:

An acoustic localization wireless sensor network node uses the time difference of arrival (TDOA) theory to locate acoustic targets. It proposes a rectangular pyramid array with six sensors. The paper deduces the formulas of the target spatial orientation and uses Generalized Cross-Correlation algorithm to achieve time delay estimation. The paper analyzes the model error. Finally, through the simulation experiment, the target can be effectively positioning and the model error is small.

Keywords: wireless sensor network node，passive acoustic location，rectangular pyramid array of six sensors，error analysis

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