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### 一种基于瞬时频率估计的被动声学测距方法

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**摘要:** 本文提出了一种基于瞬时频率估计的被动声目标运动的参数估计及测距方法, 并给出了误差分析及仿真结果。该方法克服了基于时延估计的小尺寸基阵被动测距方法误差大的困难, 特别适用于单传感器及小尺寸高精度的被动声学探测系统。

**关键词:** 被动测距; 频率估计; 误差分析

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## A KIND OF PASSIVE ACOUSTIC RANGE ESTIMATION METHOD BASED ON INSTANTANEOUS FREQUENCY ESTIMATION

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**Abstract:** A method for the estimation of passive acoustic target motion parameters and range based on instantaneous frequency estimation is presented. The passive range estimation error analysis and simulation results are given. This method overcomes the difficulty that is faced with small size arrays where the error of passive range estimation method based on time delay estimation is too large to be useful. The method can be used in high precision acoustic detection systems with single sensor or small sized arrays.

**Key Words:** passive range estimation, frequency estimation, error analysis

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