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水下传感器网络移动节点定位问题研究

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摘　要：

本文针对水下传感网中研究较少的移动节点定位问题，基于传统定位中常用的Chan算法，提出了一种改进的m-chan算法。该算法通过曲线拟合进行运动轨迹预测，并利用节点的移动特性修正估计位置，从而提高了水下移动节点的定位精度。仿真结果表明，在不同的移动速度、通信半径、锚节点密度情况下，改进算法与传统的chan算法相比，精度提高5%-10%。

关键词：水下传感器网络；节点定位；chan算法；曲线拟合；移动

Research of Location Problems for Mobile Node in Underwater Sensor Network

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Abstract:

This paper is directed against the underwater WSN mobile node localization problem which people are less concerned about, and proposes an improved algorithm based on common chan algorithm. The new algorithm forecasts trajectory through the curve fitting, and revises the estimated location according to mobility characteristic of nodes, thereby improving the localization accuracy of underwater mobile nodes. The simulation show that,in different scenarios of speed,communication radius and anchor nodes density ,the ingenious m-chan algorithm improves positioning accuracy by 5% -10% compared with traditional chan algorithm.

Keywords: underwater sensor networks; node localization; chan algorithm; curve-fitting; mobile

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