

短文与研究通讯

面向DOA测量的多目标位置信息场定位法

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摘要:

现有无源有源测向定位理论均是针对单目标定位, 无法对不可区分的多个同类辐射源定位, 且传统的测向定位法存在虚假定位的缺点。针对以上问题, 提出了一种基于DOA测量的多目标位置信息场定位法。该方法可以解决现有单目标定位无法解决的多目标定位问题, 能够同时确定目标数目和多目标位置。仿真实验用三个观测站分别对两个和三个同类辐射源进行无源测向定位, 结果说明该方法具有同时确定目标数目和多目标位置的优势, 且能有效地解决传统测向定位法中存在虚假定位的问题。

关键词: 位置信息场; DOA; 多目标; 虚假定位

A Location Method for Multi-target by Position Information Field Based on DOA

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Abstract:

The existing passive or active location theory are all proposed for single objective orientation, which are unable to locate more than one undistinguished similar radiation sources, and the traditional bearing orientation method has false location faults. According to the problems, a novel location method for multi-target by position information field based on direction of arrival (DOA) measurement information is presented in this paper. This location method can solve the problem of multi-target location which current single target location method unable to solve, and it can get target number and multi-target position at the same time. Computer experiments used three observation stations to locate two and three similar radiation sources, respectively, based on passive bearing orientation method, simulation results show that this method has the advantage of getting target number and multi-objective position at the same time, and it also can solve the problem of false location effectively in the traditional bearing orientation method.

Keywords: position information field direction of arrival multi-target false location

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