

基于牛顿迭代搜索法的多节点协同振源定位研究

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摘要:

对多节点传感器阵列,提出一种基于牛顿迭代搜索法的振源定位算法.首先引入灰色关联的概念建立多节点传感器的定位模型,然后通过对各节点协同定位结果进行牛顿迭代搜索,以期获得更为精确的定位结果.为验证算法有效性,将该算法与加权平均算法和最小二乘法进行比较,仿真结果表明,此算法可有效提高目标的定位精度。

关键词: 协同定位; 牛顿迭代搜索法; 被动定位; 灰色关联

Research on more nodes collocation excitation source based on Newton Iterative Method

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Abstract:

For many nodes sensor array, a target localization algorithm is proposed based on Newton iterative method. Firstly, the concept of grey relation on how to establish the positioning sensor node model, and for each node collocation through Newton iterative search results in order to obtain more accurate positioning results. This algorithm carries on the comparison between the weighted average method and least-square method. The simulation results show that this algorithm can effectively improve target localization accuracy.

Keywords: colocalization; Newton iterative method; passive localization; grey relation

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