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基于数据融合的双基阵被动定位算法的研究
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摘要：为了对低空飞行目标进行定位，提出一种基于数据融合的双基阵声测被动定位方法，并对定位算法和误差进行了理论分析和数值仿真。该方法采用单基阵估计的目标方位结合双基阵阵间时间延迟的方法进行目标融合定位，充分利用了基阵间的相干性。仿真表明，该方法具有较高的定位精度。该研究成果可直接用于空中运动目标的定位，也适用于地面运动目标的定位，还可推广到多基阵的运动目标声测被动定位。
关键词：声学；　双基阵；　数据融合；　相干性；　被动定位；　方向角估计
中图分类号：TN911.72

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Acoustic Passive Location with Two Arrays Based on Data Fusion

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Abstract: Passive location is an important aspect in acoustical surveillance. In order to locate low altitude targets, the method of acoustic passive location with two arrays based on data fusion was presented. By exploiting signal coherence between arrays, the method involves bearing estimation at the individual array and time delay estimation between two arrays performing nearly as well as the optimum scheme that jointly processes the data from all sensors. The algorithm and its performance were also studied by theoretical analysis and numerical simulation. Simulation results show that the location performance of the method is superior to others. The method can be used in locating targets being in the air, on the ground and having multiple arrays.
Key Words: acoustics；　two arrays；　data fusion；　coherence；　passive location；　bearing estimation

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