

高噪声环境下微动多目标分辨

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Micro-motion Targets Resolution in a High Noise Environment

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摘要

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摘要 目标的微动特性是目标的固有属性,其产生的微多普勒现象提供了多目标分辨与识别的新途径。该文针对高噪声背景下的微动多目标分辨问题,提出了一种新的基于B分布和Viterbi算法的多目标多普勒特征提取方法。该方法在高噪声环境下,将B分布和Viterbi算法进行有机结合,提取多目标微多普勒特征,进而对多目标进行分辨。基于仿真数据的试验结果表明:在高噪声背景下,该方法可以有效地提取多目标微动参数特征,实现多目标分辨。

关键词: 多目标分辨 微动 微多普勒 Viterbi算法 高噪声

Abstract: Micro-motion offers a new method to resolute targets and recognition. In order to implement micro-motion targets resolution in a high noise environment, the paper proposes a novel method based on B-Distribution (BD) and Viterbi algorithm. In this paper, an effective time-frequency BD in conjunction with the Viterbi algorithm for instantaneous frequency estimation is applied to extract the multi-targets micro-Doppler, and then implement resolution. in a high noise environment. Simulation results based on synthetic data show that the method is able to extract the micro-motion parameters of targets and implement the multi-targets resolution in a high noise environment.

Keywords: Multi-target resolution Micro-motion Micro-Doppler Viterbi algorithm High noise environment

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