



基于改进FRACTA算法的多通道SAR动目标检测技术

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Moving Target Detection for Multi-channel SAR Based on Improved FRACTA Algorithm

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摘要

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摘要 该文针对实际非均匀杂波环境对多通道SAR/GMTI动目标检测性能的影响,提出了一种改进型FRACTA算法。该算法将STAP中的FRACTA算法引入多通道SAR系统中,并进行改进,提高了其在多通道SAR系统中的检测性能和运算速度。实测数据处理结果表明,与传统的检测方案相比,该文算法能够在非均匀环境中明显地提高检测性能,是一种非均匀环境中鲁棒的多通道SAR动目标检测算法。

关键词: 合成孔径雷达 地面动目标指示 FRACTA算法 恒虚警检测

Abstract: According to the performance loss of moving target detection for a multi-channel SAR/GMTI system caused by the heterogeneous clutter environments, this paper proposes a new improved FRACTA algorithm. It arises from the improvements of the FARCTA algorithm and is proved to be more effective and computationally efficient for a multi-channel SAR system. As is verified by experimental results, this algorithm greatly overperforms the traditional detection method and shows robust in heterogeneous environments.

Keywords: Synthetic Aperture Radar (SAR) Ground Moving Target Indication (GMTI) FRACTA algorithm Constant False Alarm Rate (CFAR) detection

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