

复合高斯杂波下基于GLRT的扩展目标检测

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Detection of Range Spread Target Based on GLRT in Compound-Gaussian Clutter

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摘要 广义似然比检测(Generalized Likelihood Ratio Test, GLRT)是解决复合高斯杂波下扩展目标检测问题的一种有效方法, 而当目标速度未知时, 经典的GLRT失效。该文针对目标速度未知的情形, 提出了一种基于广义特征值分解的扩展目标多普勒频率估计算法, 可有效估计多普勒频率, 并以此为基础设计了一种R-GLRT(Robust GLRT)检测器。仿真结果表明了这种检测器的有效性。

关键词: 目标检测 扩展目标 复合高斯杂波

Abstract: GLRT is an efficient method to resolve the detection issue of range spread targets in compound Gaussian clutter. But normal GLRT will be out of action when the velocity of target is unknown. Farther research is performed under this situation. An estimation algorithm of Doppler frequency based on general eigenvalue decomposition is proposed, which can estimate Doppler frequency effectively. And a Robust GLRT (R-GLRT) detector is designed. The results of simulation show the effectiveness of this detector.

Keywords: Target detection Range spread target Compound-Gaussian clutter

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