学术探讨

一种基于小波分析的弱小目标检测背景预测算法

袁广林, 王 健, 王书宇, 秦晓燕

解放军炮兵学院 计算机教研室,合肥 230031

摘要　　背景预测是弱小目标检测的有效方法之一。根据弱小目标检测需求,针对现有算法的不足,在分析弱小目标图像特性及其小波分解特性的基础上,设计并实现了一种基于小波分析的弱小目标检测背景预测算法。给出了算法流程,对算法进行了描述,并对算法进行了试验验证,试验结果表明算法具有运算速度快和抑制噪声能力强等优点。

关键词　　小波分析　 小目标　 目标检测　 背景预测

分类号

Background prediction algorithm of small and dim target detection based on wavelet analysis

YUAN Guang-lin,WANG Jian,WANG Shu-yu,QIN Xiao-yan

Computer T&R Section,Artillery Academy of PLA,Hefei 230031,China

Abstract

Background prediction is effective method of dim and small target detection.According to requirement of dim and small target detection,aiming at defects of existing algorithm,on the basis of analyzing the characteristic of image of dim and small target and its wavelet,a kind of background prediction algorithm of small and dim target detection based on wavelet analysis is designed and implemented.Flow chart of the algorithm is given,the algorithm is described and tested,the test results identify that the algorithm has some merits that speed is high and capability of anti-noise is robust.

Key words　　wavelet analysis　 dim and small target　 target detection　 background prediction

DOI:

通讯作者　袁广林