

Aircraft Target Detection using Multimodal Satellite-Based Data

Lingling Yu , Qingxiang Yang , Limin Dong

PII: S0165-1684(18)30291-3
DOI: <https://doi.org/10.1016/j.sigpro.2018.09.006>
Reference: SIGPRO 6915

To appear in: *Signal Processing*

Received date: 31 July 2017
Revised date: 30 July 2018
Accepted date: 4 September 2018

Please cite this article as: Lingling Yu , Qingxiang Yang , Limin Dong , Aircraft Target Detection using Multimodal Satellite-Based Data, *Signal Processing* (2018), doi: <https://doi.org/10.1016/j.sigpro.2018.09.006>



This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Highlights

- An aircraft target detection method using multimodal satellite-based data based on the circumferential matched filter is proposed. The process begins with locating candidate areas and then using the relatively stable characteristics of circular gray curves associated with aircraft patterning to filter candidate areas. In fact, the experimental results show that accurate detection rate of the method was 90%, and the processing time was less than 0.5 s.
- A three-part aircraft identification method based on the texture characteristics is proposed. The first significant target detection relies on texture characteristics and Gabor filtering. The following phase uses binarization and regional Unicom, and the third phase uses aircraft area, length, width, and other characteristics to screen candidate areas. This study also shows the relatively stable characteristics of aircraft as represented in circular gray curves can be used to identify aircraft. Overall, the method reduces detection processing area and computational complexity while improving detection efficiency.

Download English Version:

<https://daneshyari.com/en/article/12208845>

Download Persian Version:

<https://daneshyari.com/article/12208845>

[Daneshyari.com](https://daneshyari.com)