Polarimetric Edge Detector Based on the Complex Wishart Distribution

A new edge detector for polarimetric SAR data has been developed. The edge detector is based on a newly developed test statistic for equality of two complex covariance matrices following the complex Wishart distribution and an associated asymptotic probability for the test statistic. The new polarimetric edge detector provides a constant false alarm rate and it utilizes the full polarimetric information. The edge detector has been applied to polarimetric SAR data from the Danish dual-frequency, airborne polarimetric SAR, EMISAR. The results show clearly an improved edge detection performance for the full polarimetric detector compared to single channel approaches.

General information
State: Published
Organisations: Department of Electrical Engineering, Department of Electromagnetic Systems, Image Analysis and Computer Graphics, Department of Informatics and Mathematical Modeling
Contributors: Skriver, H., Schou, J., Nielsen, A. A., Conradsen, K.
Publication date: 2001

Host publication information
Title of host publication: Proceedings on IEEE 2001 International Geoscience and Remote Sensing Symposium
Volume: 7
ISBN (Print): 0-7803-7031-7
Electronic versions:
imm293.pdf
DOIs:
10.1109/IGARSS.2001.978286

Bibliographical note
Copyright: 2000 IEEE. Personal use of this material is permitted. However, permission to reprint/republish this material for advertising or promotional purposes or for creating new collective works for resale or redistribution to servers or lists, or to reuse any copyrighted component of this work in other works must be obtained from the IEEE
Source: orbit
Source-ID: 57881
Research output: Research - peer-review › Article in proceedings – Annual report year: 2001