Storming Media Pentagon Reports: Fast. Definitive. Complete.

Home About Us Contact Us View Cart My Account FAQ

username LOGIN New Account » Forgot Password? chaff GO Advanced Search »

Detection and Countermeasures » Active & Passive Radar Detection & Equipment

Signal-Filter Design and System Performance for Polarimetric Radar

Authors: Richard A. Altes; Stephen F. Connelly; James R. Miller; Kishan G. Mehrotra; H. Liu; ORINCON CORP LA JOLLA CA

Abstract: Relatively simple expressions for the polarimetric scattering function of randomly oriented dipoles have yielded expressions for SIR in some simple but important cases, and these expressions have been analyzed in order to interpret the computational results. Some important insights have been obtained from the SIR expression for distributed planar targets and randomly oriented dipole clutter, i.e, for the typical target in **chaff** problem. These insights have resulted in the design of a new polarimetric clutter canceller which theoretically allows a polarimetric radar to see through **chaff**. Signal-to- interference ratio (SIR) maximization has been used to obtain an optimum signal- filter pair for polarimetric radar when targets and/or clutter exhibit random polarization modulation. The results can easily be extended to include the design of a likelihood ratio receiver for the same problem. Considerable insight into the theoretical solutions has been obtained by implementation and test of a computer program to yield the maximum SIR and Bayesian systems, i.e., the best signal and receiver configurations in each case.

Adobe PDF - $28.95

Printed Format - $32.95

ADD TO CART

Please check the box for the format you wish to order.

Shipping Terms
About Electronic Delivery

Email This Abstract

Limitations:	APPROVED FOR PUBLIC RELEASE
Description:	Final rept. Feb 84-Feb 86
Pages:	133
Report Date:	JUL 87
Contract Number:	F30602-84-C-0017
Report Number:	A752981

Keywords relating to this report:

- *CHAFF
- *CLUTTER
- *DIPOLES
- *POLARIMETRY
- *RADAR
- *RECEIVERS
- *SCATTERING
- BAYES THEOREM
- COMPUTATIONS
- COMPUTER PROGRAMS
- DISTRIBUTION
- MODULATION
- PLANAR STRUCTURES
- POLARIZATION
- SIGNAL TO NOISE RATIO
- SOLUTIONS GENERAL
- TARGETS

« Back to search

Home | About Us | Contact Us | View Cart | Customer Service | Shipping Terms | Advanced Search | Privacy Policy | Restrictions on PDF Usage

© 2001-2012 Storming Media LLC. All rights reserved.