# SHIP DETECTION IN SOUTH AFRICAN OCEANS USING SAR, CFAR AND A HAAR-LIKE FEATURE CLASSIFIER

[yz]C. P. Schwegmann,[yz]W. Kleynhans,[?z]B. P. Salmon

[y]Department of Electrical, Electronic and Computer Engineering, University of Pretoria, South Africa
[z]Remote Sensing Research Unit, Meraka Institute, CSIR, Pretoria, South Africa
cschwegmann@csir.co.za
[?]School of Engineering, University of Tasmania, Australia

## Abstract

Synthetic Aperture Radar images is a proven technology that can be used to detect ships at sea which have no active transponders (commonly referred to as dark targets). Various methods have been proposed that process SAR images to monitor these targets. In this paper, we propose a novel ship detection method for Advanced Synthetic Aperture Radar imagery that combines a Constant False Alarm Rate ship prescreening method with a Haar-like feature cascade classifier. Experimental results indicate that this configuration provides a ship detection accuracy above 88% and half the False Alarm Rate of the traditional Constant False Alarm Rate method.