

## Adaptive CFAR Analysis for Non-Gaussian Distribution

**Authors :** Bouchemha Amel, Chachoui Takieddine, H. Maalem

**Abstract :** Automatic detection of targets in a modern communication system RADAR is based primarily on the concept of adaptive CFAR detector. To have an effective detection, we must minimize the influence of disturbances due to the clutter. The detection algorithm adapts the CFAR detection threshold which is proportional to the average power of the clutter, maintaining a constant probability of false alarm. In this article, we analyze the performance of two variants of adaptive algorithms CA-CFAR and OS-CFAR and we compare the thresholds of these detectors in the marine environment (no-Gaussian) with a Weibull distribution.

**Keywords :** CFAR, threshold, clutter, distribution, Weibull, detection

**Conference Title :** ICCSP 2015 : International Conference on Communications and Signal Processing

**Conference Location :** Istanbul, Türkiye

**Conference Dates :** March 23-24, 2015