

Documents

Tayem, N., Omer, M., Hussain, A.A.

Hardware implementation of MUSIC and ESPRIT on NI-PXI platform

(2014) *Proceedings - IEEE Military Communications Conference MILCOM*, art. no. 6956780, pp. 329-332. Cited 2 times.

Abstract

In this paper, we present an experimental implementation of two well-known algorithms for direction of arrival (DOA) estimation of multiple incident source signals called. These methods are Multiple Signal Classification (MUSIC) and Estimation of Signal Parameters via Rotational Invariance Techniques (ESPRIT). The algorithms are programmed in Lab VIEW software and implemented on a National Instruments (NI) PXI platform. The details of the experimental procedures are described which include interfacing of the uniform linear array (ULA) of antennas with the NI-PXI platform, calibrating phase differences between the RF receivers, and parameters selection for both transmitter and receiver ends. The experimental results are shown for a single source lying at two different arbitrary angles to verify the successful real-time implementation of both algorithms. © 2014 IEEE.

2-s2.0-84912544187

Document Type: Conference Paper

Publication Stage: Final

Source: Scopus