



Research Article



Optimum Adaptive Beamforming Techniques

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DOI:
[http://dx.doi.org/
10.17812/IJRA.1.3 \(15\)2014](http://dx.doi.org/10.17812/IJRA.1.3 (15)2014)

Manuscript:
Received: 15th Sep, 2014
Accepted: 22nd Sep, 2014
Published: 30th Sep, 2014

ABSTRACT

Smart antennas possess the capability of suppressing jamming signal, so they can improve signal to interference plus noise ratio (SINR). Array processing utilizes information regarding locations of signal to aid in interference suppression and signal enhancement and is considered promising technology for anti-jamming. In this paper we studied three beam forming algorithms, Least Mean Square (LMS) algorithm, Optimized-LMS algorithm and Recursive Least Squares (RLS) algorithm. Simulation results are presented to compare the ability of these three algorithms to form beam in the direction of desired signal and place null in the direction of interference signal. Dependency of these algorithms on SNR and SIR is also analyzed. It has been found that RLS algorithm is best suited for anti-jamming applications.

Keywords: SINR, SIR, RLS, LMS

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IJRA - Year of 2014 Transactions:

Month: July-September

Volume – 1, Issue – 3, Page No's: 72-75

Subject Stream: Electronics

Paper Communication: Through Conference of ICETET-2014

Paper Reference Id: IJRA-2014: 1(3)72-75