BEARING AND RANGE ESTIMATION USING WIDE−BAND MUSIC METHOD (WedPmOR3)

Author(s) :

Zineb Saidi (IRENav (EA 3634) Ecole Navale, France)
Salah Bourennane (Institut Fresnel, UMR CNRS 6133−EGIM, France)
Laurent Guillon (IRENav (EA 3634) Ecole Navale, France)
Patrick Sanchez (LMA UPR 7051, France)

Abstract :

This study deals with the bearing and the range estimation for buried objects problem. We propose a new method that combines the array processing approches with an accurate acoustical modeling for the buried objects localization problem in the underwater acoustics environment. This method incorporates the exact solution for the scattered field (instead using the plane wave model) in the MUSIC method, uses the focusing operator to decorrelate the signals and estimates both the range and the bearing objects. Finally, the performances of the proposed method are validated on experimental data recorded during an underwater acoustics experiments.

Menu