Development of Precision Mine Detecting Capability through Analysis of ROAR
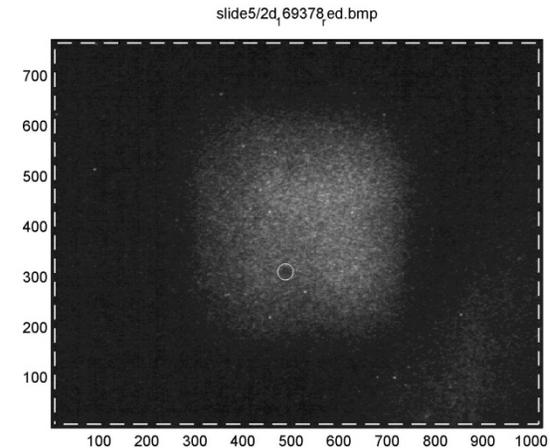## FY13-FY14

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Objectives

- Development of high efficient pattern recognition algorithm with accurate mine detection and low false alarming.

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Identification of mine-like object from the ROAR data using the new algorithm

Technical Approach

- The derivative-optimized empirical mode decomposition (EMD) method has been developed in this research to eliminate the end-point effects in the traditional EMD. The improved algorithm was integrated into the ROAR data analysis package.

- This project is a multi-institutional effort among NPS (Chu, and students), NSWC-PC (Suiter, Holloway, Pham), and Naval Oceanographic Office (Bestch and Frischer).

Accomplishments

- LT James Fritz (USN) is working on the project and will finish his MS thesis entitled "Computer aided detection of ROAR data with the capability of removing oceanic noises" in December 2013.

- Two research papers have been published in *Journal of Computational and Applied Mathematics,* and *Advances in Adaptive Data Analysis.*

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