

IEEE Journal of Oceanic Engineering

Special Issue on

Non-Rayleigh Reverberation and Clutter

Active sonar systems continue to be plagued by target-like false alarms that are often modeled as non-Rayleigh reverberation and generically referred to as clutter. The false alarms, which can have biologic, geologic or anthropogenic origin, hinder automatic and operator-assisted analysis of sonar data. Research related to active sonar clutter includes the physical modeling of clutter sources, understanding the effects of propagation and the sonar system on statistical models of the clutter, as well as the development of models for the performance of sonar systems in clutter-dominated environments and the design and analysis of signal and information processing algorithms that limit or reject clutter-generated false alarms. The intent of this special issue is to document progress in the field in the past half-decade since the April 2004 IEEE JOE Special Issue on the same topic. Theoretical, modeling, data collection and analysis, and signal and information processing type manuscripts are encouraged in the following topic areas.

- clutter source modeling or data analysis
- effect of scattering mechanisms and physics on clutter statistics
- statistics of bistatic scattering
- effect of propagation and the sonar system on clutter statistics
- dependence of clutter and clutter statistics on bandwidth
- sonar performance modeling in clutter-dominated areas
- end-to-end clutter models: linking physical scattering models to sonar performance
- clutter mitigation in signal and information processing
- clutter in distributed systems
- simulation of clutter data (source, hydrophone, beam, and sonar system levels)

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Important Dates:

- **January 30, 2009:** Manuscripts submitted before this date will be considered for publication in this special issue.
- **April 2010:** Issue publication

* IEEE JOE has established a rapid posting of accepted papers on IEEE Xplore ahead of the print version of the Journal.