

演講題目: Acoustic Digital Communications in Multipath Environment

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Topic: Acoustic Digital Communications in Multipath Environment

Abstract:

Tracking of underwater object is performed cooperatively. The underwater objects to be tracked are outfitted with an acoustics transmitter that emits a known signal at a known repetition rate. Many digital modulation techniques exist, including Frequency Modulation and Phase Modulation. Shallow water environments are particularly challenging for signal transmission/reception due to multipaths. Multipath effects include constructive and destructive interference due to overlapping reception of signals from different transmission paths. In this talk, we will present some simulation results of a performance evaluation of candidate signal types for shallow water tracking. The performance evaluation is based primarily on analysis of unclassified scientific data set. The Matlab simulation, digital signal detection, GPS, boat tracking as well as undersea Raytrace, etc will be discussed.

Speaker Biography:

Dr. Pei-Gee Peter Ho received his MS degree in Electrical Engineering and Ph.D. degree in Electrical and Computer Engineering, both from UMass Dartmouth. During the past about 30 years he has worked in various electrical and computer engineering companies such as Wang Lab., Brooktrout Technology, Compugraphics, SystemSoft, Ennovate Networks, Quarry Technology, Lockheed Martin Inc. and was primarily associated with embedded computing systems, networking, and device driver developments. He is now working in the Digital Signal Processing algorithm and Software Design group in Range and Engineering department of Naval Undersea Warfare Center at Newport, Rhode Island USA.