

ACOUSTICS2008/613

Ocean acoustic time reversal

William Kuperman

Scripps Institution of Oceanography, University of California, San Diego, La Jolla, CA 92093-0225, USA

A series of ocean acoustic time experiments have been jointly conducted in the last ten years by the NATO Undersea Research Centre and the Marine Physical Laboratory. The experiments demonstrated a robustness of the ocean acoustic time reversal mirror process similar to that found in more controlled, ultrasonic laboratory experiments. Results from these experiments have pointed to potential applications to SONAR signal processing methods and to acoustics communications. In addition, the experimental procedures themselves have yielded data that provide further understanding of the ocean acoustic environment and the increased stability of time reversal process over one way propagation in a fluctuating medium.