

A New Impulsive Sound Source for Underwater Acoustic Applications

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3:00-3:30 pm Coffee Hour

3:30-4:30 pm Seminar

Abstract

The Thermochemical Underwater Sound Source (TUSS) is a new underwater sound source with potential application to a variety of underwater activities, such as acoustic surveys, requiring an active impulsive source. TUSS is based on thruster technology developed under DARPA sponsorship for the space program. It uses a detonation wave in a reactant mixture to generate a shock wave which produces an acoustic impulse that passes through the combustion chamber walls into the surrounding medium. TUSS is a compact, flexible and reliable impulsive source which can be pre-programmed and deployed from a variety of platforms including autonomous underwater vehicles. A prototype TUSS device was designed, fabricated and tested in the laboratory and at depth in a representative lake environment.

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