

SUBMARINE VULNERABILITY REDUCTION

ARL:UT's Signal Physics Division (SPD) has some 30 years' history in projects to reduce vulnerability of submarines to threat sensor counter-detection. This work includes reduction of both radiated noise levels and acoustic target strength.

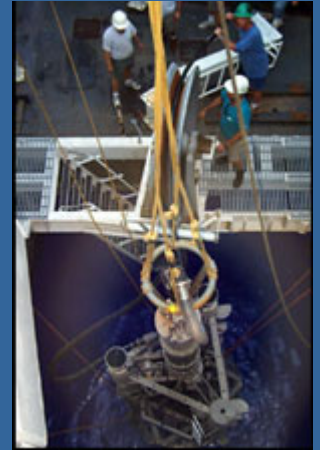
SPD maintains strong capabilities in target-strength assessment of new-construction submarines. Experience in this area includes:

- Development, construction, and operation of the Target Strength Measurement System (TSMS), a large-scale acoustic measurement system to conduct full-scale measurements of submarine target strength in the open ocean.
- Development of sophisticated techniques to analyze and interpret acoustic target strength data. These techniques allow us to:
 - Rapidly assess the quality and validity of target strength data on site during a trial.
 - Assess the overall vulnerability of submarines to a variety of active sonar threats.
 - Identify particular features and phenomena contributing to the overall target strength of submarines.
 - Assess the performance of target strength reduction techniques.

SPD also has a history of involvement in the development of analytic submarine target strength models, primarily in the validation process. SPD's experience, analytical capabilities, and extensive database provide a strong basis for model development and validation.

For further information regarding SPD's work in submarine vulnerability reduction, please contact:

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Deploying TSMS through the center well of the USNS Hayes



SPD TSMS capsule deployment



SPD staff checking out the Target Strength Measurement System (TSMS) onboard the USNS Hayes