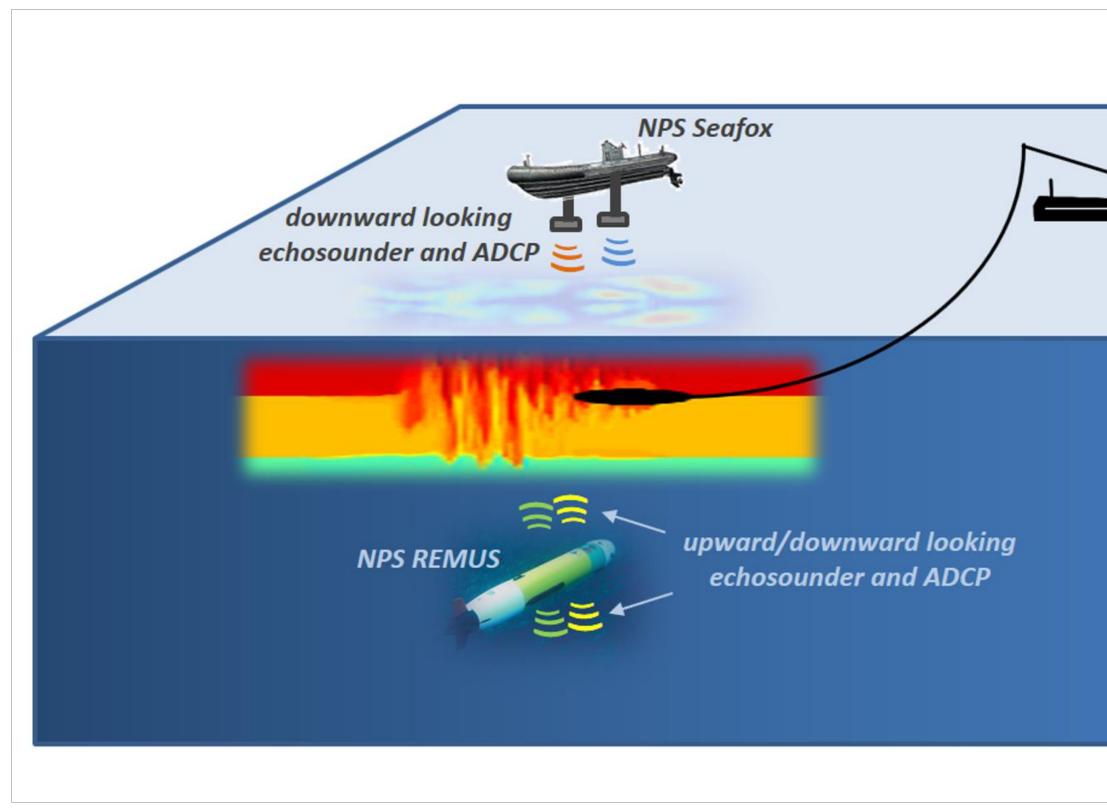
Remote sensing of submarine wakes using USVs and UUVs.



Schematic of the proposed field experiment

Deliverables

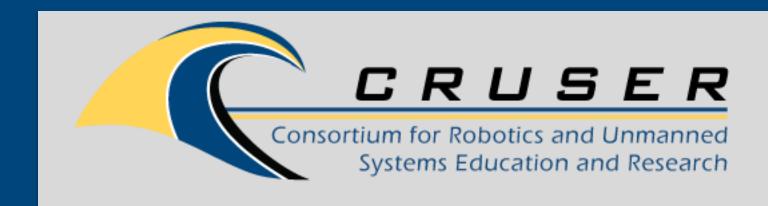
- Collect in situ measurements of turbulent wakes a equipped with remote sensing oceanographic inst
- Analyze near and intermediate fields in a measurements from AUV and USV platforms numerical models.
- Explore of wake dynamics as a function of subn motion pattern.
- Develop new detection algorithms and as detection vulnerabilities.



FY20 Call for Proposals

۲.	Approach
<image/>	Field experimentation
	- Generate turbulent wake signation using a tow-body deployed
	- With remote-sensing ocean AUV, maneuver the unman measurements of the wake
	– Apply data analysis algorith
	Numerical experiments
	 Use DoD High Performance high-resolution numerical service experiment.
	Operational Impact
strumentation. wake using remote	 Interest in hydrodynamic motivated by: (i) contin development which has le (ii) proliferation of ultra-qu whose signal-to-noise leve
strumentation. wake using remote s and corresponding	 Interest in hydrodynamic motivated by: (i) contin development which has le (ii) proliferation of ultra-qu whose signal-to-noise leve thresholds.
using AUV and USV strumentation. wake using remote s and corresponding marine speed and the ssess hydrodynamic	 Interest in hydrodynamic motivated by: (i) contin development which has le (ii) proliferation of ultra-qu whose signal-to-noise leve

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ignatures in a stratified real-ocean environment d from a research vessel

nographic sensors mounted on a USV and an inned systems through the area to collect in-situ e and surrounding environment.

thms, to include machine-learning methods

ce Computing resources to conduct a series of simulations to help interpret results of field

ically-based detection systems has been nuous technological advances in sensor ed to improved measurement accuracy and quiet air-independent propulsion submarines els fall significantly below passive acoustic

ical questions and technological challenges ibility of remote detection using autonomous

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