



Acoustic Navigation and Communications for Autonomous Platforms in the Arctic Ocean

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Recent community reports on autonomous and Lagrangian platforms and Arctic observing (Instrumentation for Arctic Ocean Exploration, 2002; Ice-Based Observatories, 2004; Autonomous and Lagrangian Platforms and Sensors- ALPS, 2003) identify the development of under-ice navigation and telemetry technologies as one of the critical factors limiting the scope of autonomous (e.g. floats, AUVs and gliders) high-latitude measurement efforts. These platforms could provide persistent, high-resolution, basin-wide sampling in ice-covered regions and collect measurements near the critical ice-water interface. Motivated by the dramatic advances in temporal and spatial reach promised by autonomous sampling and by the need to coordinate nascent efforts to develop navigation and communication system components for near-term observational efforts, an international group of acousticians, autonomous platform developers, high-latitude oceanographers and marine mammal researchers gathered in Seattle, U.S.A. from 27 February - 1 March for an NSF Office of Polar Programs sponsored Acoustic Navigation and Communication for High-latitude Ocean Research (ANCHOR) workshop. ANCHOR workshop participants focused on summarizing the current state of knowledge concerning Arctic acoustics, navigation and communications, developing an overarching system specification to guide community-wide engineering efforts and establishing an active community and steering group to guide long-term engineering efforts and ensure interoperability between elements developed by disparate teams. This presentation will summarize ANCHOR workshop findings.