M B A R I MONTEREY BAY AQUARIUM RESEARCH INSTITUTE

10 August 2018

Dr. Murali Nair
Program Director, SBIR/STTR
Division of Industrial Innovation & Partnership
National Science Foundation

Dear Dr. Nair,

The Monterey Bay Aquarium Research Institute (MBARI) entered into a technology enhancement partnership with OceanComm Inc last year, with the objective of assessing their high-speed acoustic modem and scoping opportunities for it into a variety of ocean-going platforms. The ability to transfer large datasets through water could enable coordinated multi-vehicle, multi-scale ocean process monitoring – i.e. it could transform ocean science. To support this partnership, MBARI allocated internal resources estimated at $86,309 (2018) for labor, materials, and ship time.

The modems were tested at-sea in Monterey Bay, CA, February and May. The results exceeded our expectations: data rates in excess of 400kbps at 250m were observed under a wide set of operating and surface conditions, and every time the modems were lowered. For comparison, acoustic communication data rates typically fall in the low-kbps range.

Based on this, MBARI intends to initiate a 3-year joint effort starting in January 2019, for the demonstration of 2-way high-speed acoustic communication between an AUV and a wave-glider. Including labor, materials, and ship time, our level of effort is estimated at $137,698 in 2019, with the possibility of a 3X ramp-up in 2020 and 2021.

There have been multiple claims of high-speed underwater acoustic communication in the past, but this is the first time we see technology that actually holds up to the promise. This, combined with the quality of OceanComm's engineering team and their dedication to commercializing their technology, is the reason why we strongly endorse their application for this Phase IIB award.

Signed,

Dr. Mathieu Kemp
Principal Engineer
Monterey Bay Aquarium Research Institute

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