Mandar Chitre, Ph.D.,
Editor-in-Chief,
IEEE Journal of Oceanic Engineering

Submission date: Feb 11th, 2022

Dear Dr. Chitre:

We submit the manuscript entitled "3D Adaptive Sampling using an AUV for Water Masses Separation" by Yaolin Ge and Jo Eidsvik, to be considered for publication as an original article in IEEE Journal of Oceanic Engineering.

The main findings are summarized as follows: "Traditional AUV sampling methods which require user-specified pre-scripted paths such as lawnmower patterns are inefficient and laborious. In this work, we develop, implement, and test an adaptive sampling algorithm for efficient AUV sampling of water masses in a three-dimensional frontal system. We found that our adaptive sampling algorithm performs better in revealing the fronts of the river plume than the conventional non-adaptive lawnmower patterns and another adaptive sampling algorithm that is only capable of two-dimensional AUV sampling. Results of AUV deployment in a Norwegian fjord show that the adaptive algorithm refines the initial ocean model for salinity variations." We believe these findings will be of interest to the readers of your journal.

We declare that this manuscript is original, has not been published before and is not currently being considered for publication elsewhere.

We know of no conflicts of interest associated with this publication. As Corresponding Author, I confirm that the manuscript has been read and approved for submission by all the named authors.

We hope you find our manuscript suitable for publication and look forward to hearing from you in due course.

Sincerely,

Yaolin Ge
Department of Mathematical Sciences, NTNU
Email: yaolin.ge@ntnu.no
Address: Trondheim, Norway