

Cover letter indicating the main changes with respect of a paper based on an extended conference paper

ACTA IMEKO submission: Distributed coverage optimization for a fleet of unmanned maritime systems

ISMCR 2020 paper: G. De Cubber, R. Lahouli, D. Doroftei, and R. Haelterman, "Distributed coverage optimization for a fleet of unmanned maritime systems for a maritime patrol and surveillance application," in ISMCR 2020: 23rd International Symposium on Measurement and Control in Robotics, Budapest, Hungary, 2020.

To whom it may concern,

The ACTA IMEKO submission is a completely revised version of the ISMCR2020 paper. In terms of added content and novelty, we have incorporated a novel approach to reduce the computation time of the algorithm. We have also added a completely new subsection in the validation section dedicated to the validation of the timing of the algorithm with and without the acceleration active, and we have investigated the scaling of the algorithms over multiple agents.

A complete list of changes per section is given here

- **Section 1.** Provided more references to give the reader more context and improved the explication of the use case.
- **Section 2.** Included a discussion of the state of the art on approaches to reduce the processing time
- **Sections 3.1, 3.2, 3.3:** The basic content of the algorithmic approach described here stays the same compared to the ISMCR submission, but we have clarified the approach better, corrected some mistakes and rendered the methodology easier to comprehend for the reader
- **Section 3.4** is a completely new section
- **Section 4.1** is mostly the same compared to the ISMCR submission, but we have added a discussion on the observation that the coverage functions are not monotonically increasing, which may be intuitively hard to understand for the reader
- **Section 4.2** is a completely new section
- **Section 5** is extended to reflect the new content of the article
- The number of **references** has been increased from 17 to 27