Special Issue on Methodology for Performance Evaluation of Field Robots

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Manufacturers independently evaluate the performance of many field robots including drones, making it difficult to compare and select them by users to deploy in actual work. This is one of the factors hindering the social implementation of field robots. In order to solve this problem, there is a need to establish an engineering methodology for formulating a standard performance evaluation method (e.g. automobile fuel efficiency, etc.) that allows users to quantitatively and objectively compare the performance of robots. Furthermore, by summarizing and improving this engineering methodology, a new academic field called "robot performance evaluation engineering" will be able to be developed and established.

In this special issue, based on above background, the focus is not on robots/drones themselves, but on how to evaluate their performance. For example, we call for papers that demonstrate the usefulness of the test method itself, and papers that discuss knowledge that contributes to the establishment of engineering methodologies for formulating test methods. Papers that contribute to the new academic field of robot performance evaluation engineering are widely invited.

We also welcome survey and short papers that clarify current essential topics in methodology for performance evaluation of robots. Prospective contributed papers may cover, but are not limited to, the following topics:

· Development and verification of robot/drones/sensors test methods.
· Standardization of developed test methods.
· Lessons learned for developed test methods through field demonstration.
· Comparison of robots/drones/sensors by developed test methods.
· Methodology for rule creation in robot competition.
· Survey on methodology for performance evaluation of robots/drones/sensers.

Submission: The full-length manuscript (either PDF file or MS word file) should be sent by **December 31, 2024** to the office of Advanced Robotics, the Robotics Society of Japan through the homepage of Advanced Robotics (https://www.rsj.or.jp/pub/ar/submission.html). Instructions for authors and manuscript template are available at the homepage.