

Call for Papers

IEEE Open Journal of Systems Engineering **Special Issue on Performance Assessment for Multiple Target Tracking Algorithms**

The community of information fusion researchers is a very prolific group that publishes papers in numerous annual conferences and journals. When considering the low rate of transitions of advanced information fusion techniques to real-world systems, one notices that the performances of information fusion algorithms are not characterized in a manner that lends itself to system engineering trade studies. In the systems engineering field, the performance of components versus cost is an important ingredient. For example, if an information fusion component offers little benefit to system performance for a large increment in cost, the basic version of the information fusion component should be used, and investments should be made other components to achieve the requirements of the system. While assessing the cost of implementing an information fusion component is quite complicated because of the many contributing factors like complexity and computing cost that are not easily quantified, very little effort has been made toward this goal. This special issue focuses on the performance characterization of multitarget tracking (MTT) algorithms for systems engineering. The immediate goal of this special issue is to bring attention to the need for characterizing MTT techniques for systems engineering and initiate the process of building a knowledge base to support this characterization. The long-term goal is the transition of advanced MTT techniques to modern systems with enhanced performance at lower cost.

Key Topic Areas

- Track to Truth Assignment
- Performance Metrics for Multiple Target Tracking Algorithms
- Interpreting (Rollup) Multiple Target Tracking Metrics for Systems Engineering
- Design Objectives for Track Filters (Peak versus Average) for Systems Engineering
- Specification and Characterization of Tracking Scenarios for MTT Performance Assessment
- Specifying Requirements for MTT
- Designing MTT Algorithms with Performance Guarantees
- Complexity Tradeoffs associated with Latency, Computations, Software, or Cost Versus Performance
- Complexity Measures for MTT Algorithms

For information on paper submission, prospective authors should visit <http://ieeaeess.org/OJSE>. Manuscripts should be submitted using the manuscript submission web site for IEEE Open Journal of Systems Engineering at <https://ieeaeess.com/journal/ojse> for peer review. Publication costs are \$975 (USD) for a 10-page manuscript.

Important Dates

- Manuscript submission deadline: 1 December 2024
- First review completed: 1 February 2025
- Revised manuscript due: 1 March 2025
- Second review completed: 1 April 2025
- Final manuscript due: 1 May 2025

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