DESIGN OF A MULTIPLE MODEL SIMULATION TEST-BED FOR A COMMON-BASED COMPARISON OF TRACKING FILTERS

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Abstract. During the last three decades, the application of state-space estimation methods to the target tracking and trajectory estimation problems created a lot of new tracking filters or modified old filters. Unfortunately all these filters were tested separately in many different environments. This renders difficult and often impossible the direct comparison of the filters, due to the incompatibility of the available results. A solution can be found by creating a unified environment, for the testing and the comparing of the various tracking filters. From this point of view, the paper presents: first, a collection of the more often used state-space models and test cases for the target tracking problem, second, a selection of the most representative of them, in order to create a general target tracking test-bed (TTTB), as a common base for the test and the comparison of different tracking filters, and finally, a sample set of tracking filters applied and tested using the proposed unified framework.

REFERENCES


