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Title Simulation and Estimation of Formation Flight Trajectories using
IMMPDAF – Multi Sensor Multi Target Approach

Author/s Sudesh Kumar Kashyap, VPS Naidu, and Shanthakumar N.

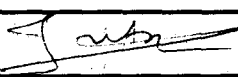
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Abstract

This report presents the feasibility study of radar plot data based tracking and fusion for multi sensor multi target application. The work is carried out in two stages, (i) simulation of radar plot data and (ii) tracking and fusion of multi sensor plot data. Single/two/four aircraft flight profiles have been simulated in the vicinity of the radars and the plot data is generated with noise as well as clutter. This data is subsequently used to track the aircraft trajectories using IMMPDAF algorithm. Two different approaches for measurement handling have been investigated and found that the single filter approach with measurement concatenation from all sensors (measurement mixing) is suitable for sensors which give measurements with low sampling rate or with poor detection probability.