

ABSTRACT OF THE DISCLOSURE

**A MANEUVERING TARGET TRACKING METHOD VIA MODIFYING THE
INTERACTING MULTIPLE MODEL (IMM) AND THE INTERACTING
ACCELERATION COMPENSATION (IAC) ALGORITHMS**

- 5 The present invention relates to the field of target tracking and more generally to a method employing improved algorithms, which achieve excellent tracking performance for a high-g maneuvering target. The two-model Interacting Multiple Model algorithm and the Interacting Acceleration Compensation algorithm will be modified by introducing adaptive factors through the detection of the normalized innovation squared
- 10 which is chi-square probability distributed. The implementation results show that the modified algorithms can handle the target sudden maneuver better and are more accurate than the original algorithms.

15 FIG. 1

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