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A Dynamic Controlling Scheme for a Tracking System

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Abstract

The surveillance area of a radar system is usually very huge and the observations are usually more than the real targets. Moreover, both non-maneuvering and maneuvering conditions are usually existed during the tracking process. The computation burden of a radar system is heavy to track multiple maneuvering targets in real time because of the complicated tracking environment. In order to reduce the computation burden and assure the tracking accuracy in a tracking procedure simultaneously, a dynamic controlling scheme for a tracking system is developed in this paper. The major concept of this approach is that the system will choose a suitable gating size based on target situations in real time. In this paper, we also apply an adaptive estimator to track maneuvering targets.

Key words: Adaptive estimator; Dynamic controlling scheme; Gating size