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The sampling interval control scheme for a radar 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. In order to reduce the computation burden and assure the tracking accuracy in a tracking procedure simultaneously, a sampling interval controlling scheme for a radar system is developed in this paper. The major concept of this approach is that the system will choose a suitable tracking interval based on target situations. Based on the simulation results, the proposed approach in this paper can track multiple maneuvering targets in various situations.

Key words: Dynamic controlling scheme; Maneuvering conditions; Tracking interval