

Applying Likelihood on Hopfield Neural Network for Radar Tracking

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Abstract

The multiple-target tracking (MTT) algorithm plays an important role in radar systems. Data association is the most important technique to solve the tracking problems associating dense measurements with existing tracks. A new approach applying Likelihood to measurements and existing tracks in a radar system based on Neural Network computation is investigated in this paper. The proposed algorithm will solve both the data association and the target tracking problems simultaneously. With this approach, the matching between radar measurements and existing target tracks can achieve global relevance. Computer simulation results indicate the ability of this algorithm to keep track of targets under various conditions.

Key words: Data association; Likelihood; Neural network