Applying neural network and fuzzy control to radar systems

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ABSTRACT

In view of the civil airplane and air force is made good progress. The tracking environment becomes more complicated today. The capability of tracking systems should be enhanced to make sure the good tracking results. In a radar tracking system, it is more complicated to tracking multiple targets. In this research, an advance algorithm which applies neural network and fuzzy computation logic is developed. The system will improve the tracking accuracy and reliability of radar surveillance. Moreover, in order to solve the data association and target maneuvering situations, an algorithm denoted Competitive Hopfield Neural Network (CHNN) and an adaptive multiple-model compensator is applied to solve both data association and target maneuvering problems simultaneously. In order to verify this approach, simulations of multiple target tracking problems are conducted. Computer simulation results indicate that this approach successfully tracks multiple targets in a dynamic sensor system and has good performance.

Keywords : computer、dynamic、today、data

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