

# The Research of Radar Target Track Smoothing and Compression

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## ABSTRACT

Data association algorithm is the most important technique in a multiple-target tracking system. In this dissertation, a method using a Competitive Hopfield Neural Network (CHNN) is proposed for data association. In other hand, based on the CHNN, the radar track smoothing and is also investigated in this dissertation. In this approach, the CHNN differs from the original Hopfield network in that a competitive winner-take-all mechanism is imposed. In order to have completely tracking process, the maneuvering procedure is also applied. In order to analyze the performance of this system, a computer simulation algorithm is conducted and the simulation results indicate that this approach successfully obtains the better radar track.

Keywords : data association ; Competitive Hopfield Neural Network ; radar track smoothing ; maneuvering procedure

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