CHEAP JOINT PROBABILISTIC DATA ASSOCIATION WITH NEURAL NETWORK STATE FILTER FOR TRACKING MULTIPLE TARGETS IN CLUTTERED ENVIRONMENT

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ABSTRACT—In this paper a cheap joint probabilistic data association (CJPDA) with the neural network state filter (NNSF) is presented for tracking multiple targets in low and high cluttered environments. The state update step of the CJPDA filter (CJPDAF) is realized with the NNSF instead of Kalman filter. Through simulation, a comparison is made to show the performance difference between the CJPDA with NNSF (CJPDA-NNSF) proposed in this paper and the CJPDAF for different tracking scenarios. It was shown that the tracking performance of the proposed method is better than that of the CJPDAF.