

数据库与信息处理

基于K-均值聚类的多雷达数据融合算法研究

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摘要 应用K-均值聚类的方法区分源于不同目标的观测数据, 通过类间数据融合, 实现对多目标的实时跟踪。研究了观测数据K-均值聚类的基本思想、聚类处理过程及算法实现, 讨论了对机动目标跟踪的Kalman滤波方程及空管系统中易于计算的各参数矩阵理论依据及相应的初值。发现通过K-均值聚类能很好区分不同目标, 聚类后再进行跟踪融合更加准确。仿真结果表明, 经K-均值聚类处理后的滤波跟踪航迹效果较好。

关键词 [空中交通管理](#) [K-均值聚类](#) [数据融合](#)

分类号

Research on multirada data fusion algorithm based on K-mean clustering

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Abstract

This paper studies the discrimination of the different kind goal observation data using the k-mean clustering method, and realizes to the multi-objectives real-time track through the kind of data fusion.The basic thought, cluster treating processes and the algorithm realization of the observation data k-mean clustering are studied.Filter Equations for maneuvering target tracking are described;Parameter matrix theory for the Simplified calculation and corresponding initial value are given in air traffic control system.The discovery which the K-mean clustering be able to discriminate different goal well, and after clustering the kind to carry on the track fusion to be more accurate are found.The simulation result indicates that, the filter track trace is good after the K-mean clustering.

Key words [air traffic control](#) [K-mean clustering](#) [data fusion](#)

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