

[1]郭 健,侯中喜,魏艳艳,等.粒子滤波算法在视频目标跟踪中的改进与运用[J].弹箭与制导学报,2012,3:86-88.

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## 粒子滤波算法在视频目标跟踪中的改进与运用(PDF)

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Title: An Improvement and Implement of Particle Filtering Algorithm in Video Target Tracking

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关键词: 粒子滤波; 目标跟踪; 重采样; HSV颜色基准

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摘要: 为实现粒子滤波算法在视频目标跟踪领域的应用,减小算法的运算量,提高算法的适应性和鲁棒性,文中提出利用构造等价有效粒子数的概念,采用选择重采样的方式减少重采样的执行步骤,减少运算量。同时为减小算法对亮度的敏感性,提出利用HSV色彩基准代替RGB色彩基准作为目标特征,对目标进行识别。最后对改进算法进行了试验,结果表明文中所提的方法能减少算法的计算量,有效的改进算法在视频目标跟踪中的稳定性。

Abstract: To apply the particle filtering algorithm in video target tracking, reduce its computation and improve the adaptive and robust ability of this algorithm, the concept of equal effective particle number(EEPN)was proposed to reduce the steps of re-sampling, thus reduce the computation. To make the algorithm be less sensitive to brightness, the HSV color model was used instead of RGB color model to identify the target. In the end of this paper, some experiments were done, and the results show that our methods are effective to reduce computation and improve the steadiness of algorithm.

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