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## ACCEPTED MANUSCRIPT

# Collaborative model based UAV tracking via local kernel feature

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#### Abstract

Partial occlusion is one of a challenging problem in unmanned aerial vehicle (UAV) tracking. In this paper, we propose a novel collaborative model based tracking method which attempts to exploit a holistic model and a part model that tracks an object consistently through the entire video sequence. Specifically, we first develop a robust local kernel feature which learns the data around to encode the geometric information of the object. Next, the target is divided into four parts. And structure support vector machine (SSVM) is employed to integrate with the local feature to a robust visual tracking framework. Furthermore, we adopt a reliable metric to measure the reliability of a patch. Kalman

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