



Simultaneous Identification and Tracking of Moving Targets

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Abstract:

This paper describes a framework for simultaneous identification and tracking of moving targets in random media. Video and IR thermal sensors are used to obtain the target signature. Classical Kalman filtering methods are implemented on targets with unknown trajectories. Computer vision methodologies are proposed to design a smart interceptor which identifies the targets based on shape and thermal signatures. The paper also describes a platform for basic studies in tracking of targets using vision-guided robotics. The system enables multiple object tracking and recognition.

Keywords:

Kalman filters , image motion analysis , infrared imaging , object tracking

Published In:

IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops , , 49 - 54