

## Clustering Color Space, Time Interest Points for Moving Objects

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**Abstract :** Detecting moving objects in sequences is an essential step for video analysis. This paper mainly contributes to the Color Space-Time Interest Points (CSTIP) extraction and detection. We propose a new method for detection of moving objects. Two main steps compose the proposed method. First, we suggest to apply the algorithm of the detection of Color Space-Time Interest Points (CSTIP) on both components of the Color Structure-Texture Image Decomposition which is based on a Partial Differential Equation (PDE): a color geometric structure component and a color texture component. A descriptor is associated to each of these points. In a second stage, we address the problem of grouping the points (CSTIP) into clusters. Experiments and comparison to other motion detection methods on challenging sequences show the performance of the proposed method and its utility for video analysis. Experimental results are obtained from very different types of videos, namely sport videos and animation movies.

**Keywords :** Color Space-Time Interest Points (CSTIP), Color Structure-Texture Image Decomposition, Motion Detection, clustering

**Conference Title :** ICISP 2015 : International Conference on Imaging and Signal Processing

**Conference Location :** Istanbul, Türkiye

**Conference Dates :** January 26-27, 2015