

# Features detection in spatial point processes via cluster and MDS techniques

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**Abstract:** We consider the problem of detecting features of general shape in spatial point processes in the presence of substantial clutter. Our goal is to remove clutter from images where one or several features are present and have to be detected. We use a method based on local indicators of spatial association (LISA) functions. Each LISA function is considered an observation in a multidimensional space. We thus perform cluster and multidimensional scaling (MDS) to classify these observations, and in turn to discriminate between points belonging to the feature and clutter points. An environmental problem based on forest fires is presented.

**Keywords:** Cluster analysis, Feature detection, LISA functions, Multidimensional scaling, Spatial point processes.