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On the Threshold Method for Marked Spatial Point Processes

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Abstract: The threshold method in the framework of marked spatial point processes on a continuous space is discussed. The threshold method is a linear prediction of the total sum of marks using only the number of points with marks exceeding a given threshold value. The result is an extension of Mase (1996) to a continuous space and also the independent mark assumption of Mase (1996) is weakened. It is shown that the total sum of the marks is linearly predictable if the number of points has a huge variation and marks satisfy some mixing condition. A simulation study is given to illustrate the theoretical result.

Key words: linear prediction, mixing condition, non-ergodicity

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