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## Prediction of the Sample Variance of Marks for a Marked Spatial Point Process by the Threshold Method

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**Abstract:** We discuss the prediction of the sample variance of marks of a marked spatial point process on a continuous space by the threshold method. The threshold method is a statistical prediction using only the number of points with marks exceeding a given threshold value. Mase (1996) considered the method in the framework of spatial point processes on a discrete space and Sakaguchi and Mase (2003) extended the results of Mase (1996) to a continuous space. They considered the prediction of the sum of marks. In the present paper, it is shown that the sample variance of marks can be also predicted well if a point process is non-ergodic and marks satisfy some mixing-type condition. A simulation study is given to confirm the theoretical result.

**Key words:** marked spatial point process, mean square error, mixing condition, non-ergodicity, threshold method

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