

Two-Dimensional Variable Window Discrete Scan Statistics

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In this article variable window discrete scan statistics are introduced for both conditional and unconditional two-dimensional cases. It is used to test the null hypothesis that the observations are randomly distributed according to a Bernoulli distribution against the alternative hypothesis that of clustering when the window sizes are unknown. Approximations for the significance level are evaluated based on approximations and Monte Carlo permutation tests. Powers of variable window discrete scan statistics will be evaluated and will be compared to the various length of fixed window of scan statistic.

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