



Approximation for the Distribution of Three-dimensional Discrete Scan Statistic

[Alexandru Amarioarei](#), [Cristian Preda](#)

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We consider the discrete three dimensional scan statistics. Viewed as the maximum of an 1-dependent stationary r.v.'s sequence, we provide approximations and error bounds for the probability distribution of the three dimensional scan statistics. Importance sampling algorithm is used to obtains sharp bounds for the simulation error. Simulation results and comparisons with other approximations are presented for the binomial and Poisson models.

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MSC classes: 62E17, 62M30

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