

**A New Method of Simulation Output Analysis:
Threshold Bootstrap**

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ABSTRACT

Inference for discrete event simulations usually relies on either independent replications or, if each simulation run is expensive, the method of batch means applied to a single replications. We present a new method, threshold bootstrap, which equals or exceeds the performance of independent replications or batch means. The method works by resampling runs of data created when a stationary time series crosses a threshold level, such as the sample mean of series. Computational results show that the threshold bootstrap matches or exceeds the performance of these alternative methods in estimating the standard deviation of the sample mean and producing valid confidence intervals.