



A nonparametric CUSUM control chart based on the Mann-Whitney statistic

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This article aims to consider a new univariate nonparametric cumulative sum (CUSUM) control chart for small shift of location based on both change-point model and Mann-Whitney statistic. Some comparisons on the performances of the proposed chart with other charts as well as the properties of the test statistic are presented. Simulations indicate that the proposed chart is sensitive in detection of the small mean shifts of the process by a high intensive accumulation of sample information when the underlying variable is completely distribution-free.

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