A New Chart for Process Data with Unknown Distribution

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X-bar and S/R charts are the common charts used to monitor the process mean and variance. When the distribution of the process data is unknown or non-normal, we can't use X-bar and S/R charts. Hence a new chart based on the concept of nonparametric statistics is proposed to monitor the process mean here. We will study the sampling behavior of the proposed plotting statistic and show how to construct this New Chart. An example is used to illustrate how to implement this new approach.