



New Statistics to Control the Process Mean

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The sample mean is the usual statistic to control the process mean. In this article, we investigate new monitoring statistics that are easy to compute and more efficient because they accelerate the detection of process changes. After fixing the maximum allowed rate of false alarms and the maximum allowed rate of inspected items, the control chart based on these new statistics is compared with the traditional mean chart. With these new statistics, the control chart has higher detection power. These new statistics are highly recommended to control measurable quality characteristics that also allow classifying the sample items attributively; for instance, by using go-no-go gauges devices.

Keywords: Shewhart charts; mean chart; new monitoring statistics; average run length.