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## Quality Control

# A New Procedure to Monitor the Mean of a Quality Characteristic

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*The Shewhart, Bonferroni-adjustment, and analysis of means (ANOM) control charts are typically applied to monitor the mean of a quality characteristic. The Shewhart and Bonferroni procedure are utilized to recognize special causes in production process, where the control limits are constructed by assuming normal distribution for known parameters (mean and standard deviation), and approximately normal distribution regarding to unknown parameters. The ANOM method is an alternative to the analysis of variance method. It can be used to establish the mean control charts by applying equicorrelated multivariate non central t distribution. In this article, we establish new control charts, in phases I and II monitoring, based on normal and t distributions having as a cause a known (or unknown) parameter (standard deviation). Our proposed methods are at least as effective as the classical Shewhart methods and have some advantages.*

**Keywords** Analysis of means; Average run length; Bonferroni-adjustment; False alarm probability; Shewhart.

**Mathematics Subject Classification** 62P30; 62E15.