

Display, Document, and Discover: A Fresh Look at Control Charts

Control charts are traditionally used as a tool for monitoring instrument or process performance over time. We will review the most commonly used types of control charts and their applications, giving examples of their use with different types of data. We will also demonstrate some of the pitfalls of control charts, especially when an inappropriate type or estimator of the process standard deviation is applied, yielding misleading results. Control charts are intended as a quality assurance mechanism, designed to *display*, *document*, and enable *discovery*. Used properly they can guide the user to a better understanding of the process under study, and to discovery of potential problems with the process or instrument.

Mary Satterfield, Ph.D.
Research Chemist
Metrology for Gene Expression Team
National Institute of Standards and Technology
100 Bureau Drive, Stop 8313
Gaithersburg, MD 20899
phone: 301/975-5364
fax: 301/975-5449
satterfield@nist.gov