Statistical Engineering Division Seminar

Tuesday October 14, 1997, 11:00 am

Lecture Room E, Administration Bldg.
NIST
Gaithersburg, MD

The Box-Jenkins Manual Adjustment Chart

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This seminar will review the recent work of George Box and co-workers on the problems of active adjustment of industrial processes. The Box-Jenkins Manual Adjustment and Bounded Adjustment Charts will be discussed. The roles of the cost of adjustment, the frequency of adjustment and the cost of being off target will also be addressed. The work is based upon the premise that most sequentially recorded industrial data are non-stationary in character. The EWMA then becomes the essential statistic for both forecasting and control. The variogram is used to check for non-stationarity. The forecasting and charting procedures proposed are easy to apply and remarkably robust. The Box-Jenkins methodology bears a one-to-one correspondence to integral, and integral-differential control practices. The use of the Box-Jenkins process adjustment methods in combination with Shewhart chart monitoring procedures is strongly recommended.

J. Stuart Hunter is Professor Emeritus, School of Engineering and Applied Science, Princeton University. He is a past President of the American Statistical Association, the founding editor of TECHNOMETRICS, and once chairman of the Advisory Board, Applied Mathematics, of the National Bureau of Standards.

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