

1. Record Nr.	UNINA9911020094503321
Autore	Box George E. P
Titolo	Statistical control by monitoring and feedback adjustment // George E. P. Box, Alberto Luceno, Maria del Carmen Paniagua-Quinones
Pubbl/distr/stampa	Hoboken, N.J., : John Wiley & Sons, 2009
ISBN	9786613273932 9781283273930 1283273934 9781118164532 1118164539 9781118164464 1118164466
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (358 p.)
Collana	Wiley series in probability and statistics
Altri autori (Persone)	LucenoAlberto Paniagua-QuinonesMaria del Carmen
Disciplina	629.8/3
Soggetti	Feedback control systems Process control - Statistical methods
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Statistical Control by Monitoring and Adjustment, Second Edition; Contents; Preface; 1 Introduction and Revision of Some Statistical Ideas; 1.1 Necessity for Process Control; 1.2 SPC and EPC; 1.3 Process Monitoring Without a Model; 1.4 Detecting a Signal in Noise; 1.5 Measurement Data; 1.6 Two Important Characteristics of a Probability Distribution; 1.7 Normal Distribution; 1.8 Normal Distribution Defined by μ and σ^2 ; 1.9 Probabilities Associated with Normal Distribution; 1.10 Estimating Mean and Standard Deviation from Data; 1.11 Combining Estimates of μ 1.12 Data on Frequencies (Events): Poisson Distribution1.13 Normal Approximation to Poisson Distribution; 1.14 Data on Proportion Defective: Binomial Distribution; 1.15 Normal Approximation to Binomial Distribution; Appendix 1A: Central Limit Effect; Problems; 2 Standard Control Charts Under Ideal Conditions As a First Approximation; 2.1 Control Charts for Process Monitoring; 2.2 Control

Chart for Measurement (Variables) Data; 2.3 Shewhart Charts for Sample Average and Range; 2.4 Shewhart Chart for Sample Range; 2.5 Process Monitoring With Control Charts for Frequencies
2.6 Data on Frequencies (Counts): Poisson Distribution
2.7 Common Causes and Special Causes; 2.8 For What Kinds of Data Has the c Chart Been Used?; 2.9 Quality Control Charts for Proportions: p Chart; 2.10 EWMA Chart; 2.11 Process Monitoring Using Cumulative Sums; 2.12 Specification Limits, Target Accuracy, and Process Capability; 2.13 How Successful Process Monitoring can Improve Quality; Problems; 3 What Can Go Wrong and What Can We Do About It?; 3.1 Introduction; 3.2 Measurement Charts; 3.3 Need for Time Series Models; 3.4 Types of Variation; 3.5 Nonstationary Noise
3.6 Values for constants
3.7 Frequencies and Proportions; 3.8 Illustration; 3.9 Robustness of EWMA; Appendix 3A: Alternative Forms of Relationships for EWMA; Questions; 4 Introduction to Forecasting and Process Dynamics; 4.1 Forecasting with an EWMA; 4.2 Forecasting Sales of Dingles; 4.3 Pete's Rule; 4.4 Effect of Changing Discount Factor; 4.5 Estimating Best Discount Factor; 4.6 Standard Deviation of Forecast Errors and Probability Limits for Forecasts; 4.7 What to Do If You Do Not Have Enough Data to Estimate ; 4.8 Introduction to Process Dynamics and Transfer Function
4.9 Dynamic Systems and Transfer Functions
4.10 Difference Equations to Represent Dynamic Relations; 4.11 Representing Dynamics of Industrial Process; 4.12 Transfer Function Models Using Difference Equations; 4.13 Stable and Unstable Systems; Problems; 5 Nonstationary Time Series Models for Process Disturbances; 5.1 Reprise; 5.2 Stationary Time Series Model in Which Successive Values Are Correlated; 5.3 Major Effects of Statistical Dependence: Illustration; 5.4 Random Walk; 5.5 How to Test a Forecasting Method; 5.6 Qualification of EWMA As a Forecast
5.7 Understanding Time Series Behavior with Variogram

Sommario/riassunto

Praise for the First Edition "This book . . . is a significant addition to the literature on statistical practice . . . should be of considerable interest to those interested in these topics."-International Journal of Forecasting
Recent research has shown that monitoring techniques alone are inadequate for modern Statistical Process Control (SPC), and there exists a need for these techniques to be augmented by methods that indicate when occasional process adjustment is necessary. Statistical Control by Monitoring and Adjustment, Second Edition presents the relationship among these concep
