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Reliability; 2.5 Water Quality Specifications; 2.5.1 Water Quality Standards; 2.5.2 Effluent Standards; 3 Risk Quantification; 3.1 Stochastic Approach; 3.1.1 Direct Evaluation; 3.1.2 Second-Moment Formulation; 3.1.3 Frequency Analysis of Data; 3.1.4 Stochastic Modelling; 3.1.5 Monte Carlo Simulation; 3.2 Fuzzy Set Theory; 3.2.1 Fuzzy Regression; 3.2.2 Fuzzy Modelling; 3.3 Time Dependence and System Risk; 3.3.1 Failure and Reliability Functions
3.3.2 Failure Rate and Hazard Function3.3.3 Expected Life; 3.3.4 System Risk and Reliability; 3.3.4.1 Series Systems; 3.3.4.2 Parallel Systems; 4 Risk Assessment of Environmental Water Quality; 4.1 Risk in Coastal Water Pollution; 4.1.1 Uncertainties in Coastal Water Quality Processes; 4.1.2 Mathematical Modelling; 4.1.2.1 Molecular Diffusion; 4.1.2.2 Turbulent Diffusion; 4.1.2.3 Turbulent Dispersion; 4.1.2.4 Growth Kinetics; 4.1.2.5 Coastal Circulation; 4.1.3 Random Walk Simulation; 4.1.4 Dispersion by Wind Generated Currents; 4.2 Risk in River Water Quality; 4.2.1 Introduction
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5.3 Basic Decision Theory

Sommario/riassunto

Question: How can I best evaluate the environmental impact and find the risk of water pollution from wastewater disposal? Answer: This book shows you the way! In a unique and comprehensive manner, questions of risk and reliability in water quality are analyzed. And more than that: The author also develops a methodology to evaluate the environmental impact of wastewater disposal on rivers, groundwater and coastal areas.Major topics covered include: fuzzy set theory for engineering risk analysis/ uncertainty analysis of water quantity and quality data/ stochastic and fuzzy simula