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Nota di contenuto	Dynamics of Environmental Bioprocesses; Preface; Organisation of the Book; ISIM Simulation Software; Acknowledgements; Table of Contents; Nomenclature for Chapters 1 and 2; 1 Modelling Principles; 1.1 The Role of Modelling in Environmental Technology; 1.2 General Aspects of the Modelling Approach; 1.3 Model Classification; 1.3.1 Deterministic Models; 1.3.2 Stochastic Models; 1.3.3 Steady-State Models; 1.3.4 Dynamic Models; 1.4 General Modelling Procedure; 1.5 Simulation Tools; 1.6 ISIM; 1.7 Introductory ISIM Example: WASTE; 1.8 Formulation of Dynamic Balance Equations 1.8.1 Mass Balance Procedures1.8.1.1 Case A . Continuous Stirred-Tank Reactor; 1.8.1.2 Case B . Tubular Reactor; 1.8.1.3 Case C . River with Eddy Current; 1.8.1.4 Rate of Accumulation Term; 1.8.1.5 Convective Flow Terms; 1.8.1.6 Production Rate; 1.8.1.7 Diffusion of Components; 1.8.1.8 Interphase Transport; 1.8.1.9 Case A . Waste Holding Tank: Total and Component Mass Balance Example; 1.8.1.10

Sommario/riassunto

Dynamic environmental processes are complex; the easiest and most effective way to understanding them lies through the disciplines of dynamic modelling and computer simulation.The prerequisite modelling fundamentals are presented in the first chapter in a manner comprehensible to students as well as to practising scientists and engineers. The second chapter describes the many environmental processes that lend themselves to modelling, for example pollution and wastewater treatment. The third part of the book provides 65 simulation examples both on the page and on an accompanying diskett