



Geotechnical Modelling (Applied Geotechnics)

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CRC Press, 2004. Book Condition: New. Brand New, Unread Copy in Perfect Condition. A+ Customer Service! Summary: 1. Introduction to Modelling 1.1 Introduction 1.2 Empirical Models 1.3 Analytical Models: Theoretical Models 1.4 Numerical Modelling 1.5 Constitutive Modelling 1.6 Physical Models 1.7 Geological Model 1.8 Classification Model 1.9 Conclusion 2. Characteristics of Soil Behaviour 2.1 Introduction 2.2 Particle-continuum Duality 2.3 Laboratory Element Testing 2.4 Stress and Strain Variables 2.5 Stiffness 2.6 Dilatancy 2.7 Strength 3. Constitutive Modelling 3.1 Introduction 3.2 Elastic Models 3.3 Elastic-perfectly Plastic Models 3.4 Elastic-hardening Plastic Models 3.5 Modelling Non-monotonic Loading 3.6 Modelling Cementation and Structure 3.7 Modelling Rate Effects 3.8 Design of Programmes of Laboratory Tests 3.9 Selection of Soil Parameters: Calibration of Models 4. Numerical Modelling 4.1 Introduction 4.2 Field Problems 4.3 One-dimensional Finite Elements 4.4 Two-dimensional Finite Elements 4.5 Integration 5. Physical Modelling 5.1 Introduction 5.2 Dimensional Analysis 5.3 Settlement of a Footing 5.4 Bearing Capacity of a Footing 5.5 Soil Nonlinearity 5.6 Scaling Laws Revisited 5.7 Soil-structure Interaction 5.8 Single Gravity Modelling 6. Centrifuge Modelling 6.1 Introduction 6.2 Mechanics of Centrifuge Modelling 6.3 Centrifuges 6.4 Model Preparation 6.5 Geotechnical Processes 6.6 Pore Fluid 6.7 Site Investigation 6.8 Instrumentation 6.9 Modelling and Testing 6.10 Closure 7....



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