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Nota di contenuto	Problem of Uncertainties in Geotechnical Engineering -- Estimation of SWCC and Permeability for Granular Soils -- Modeling SWCC for Coarse-Grained and Fine-Grained Soil -- Model Updating and Uncertainty Analysis for Creep of Clay -- Effect of Loading Duration on Uncertainty in Creep Analysis for Clay -- Model Class Selection for Sand with Generalization Ability Evaluation -- Parametric Identification of Advanced Soil Models for Sand -- Estimation of Pullout Shear Strength of Grouted Soil Nails -- Selection of Physical and Chemical Properties of Natural Fibers for Predicting Soil Reinforcement -- An Efficient Probabilistic Back-analysis Method for Braced Excavations.
Sommario/riassunto	This book introduces systematically the application of Bayesian probabilistic approach in soil mechanics and geotechnical engineering. Four typical problems are analyzed by using Bayesian probabilistic

approach, i.e., to model the effect of initial void ratio on the soil–water characteristic curve (SWCC) of unsaturated soil, to select the optimal model for the prediction of the creep behavior of soft soil under one-dimensional straining, to identify model parameters of soils and to select constitutive model of soils considering critical state concept. This book selects the simple and easy-to-understand Bayesian probabilistic algorithm, so that readers can master the Bayesian method to analyze and solve the problem in a short time. In addition, this book provides MATLAB codes for various algorithms and source codes for constitutive models so that readers can directly analyze and practice. This book is useful as a postgraduate textbook for civil engineering, hydraulic engineering, transportation, railway, engineering geology and other majors in colleges and universities, and as an elective course for senior undergraduates. It is also useful as a reference for relevant professional scientific researchers and engineers.