

Table of contents

Preface	IX
Acknowledgements	XI
<i>Constitutive models</i>	
Estimation of strength and deformation parameters of jointed rock masses A. Yufin, E.V. Lamonina & O.K. Postolskaya	3
Simulation of fracture flow on single rock joint S. Kishida, P. Mgaya & T. Hosoda	17
Numerical simulations of materials with micro-structure: limit analysis and homogenization techniques J.B. Lourenço	33
Modeling water flow in an unsaturated compacted soil J.V. Bicalho	55
Effects of post-peak brittleness on failure and overall deformational characteristics for heterogeneous rock specimen with initial random material imperfections C.B. Wang	65
Constitutive model calibration using an optimization technique I.G. Guimarães, I.D. Azevedo & R.F. Azevedo	77
<i>Computational models</i>	
Consideration of geological conditions in numerical simulation J. Beer & G. Exadaktylos	87
Numerics for geotechnics and structures. Recent developments in ZSoil.PC Th. Zimmermann, J.-L. Sarf, A. Truty & K. Podles	103
Identification of parameters: their importance, attention to be paid, cares to be taken I.C. André & A.C. Furukawa	115
Inverse analysis on two geotechnical works: a tunnel and a cavern S. Eclaircy-Caudron, D. Dias, R. Kastner, T. Miranda, A.G. Correia & L.R. Sousa	125
The influence of the permeability model in unconfined seepage problems I.M.M.C. Marques & J.M.P. Marado	143
<i>Artificial intelligence</i>	
Alternative models for the calculation of the RMR and Q indexes for granite rock masses T. Miranda, A.G. Correia, I. Nogueira, M.F. Santos, P. Cortez & L.R. Sousa	151
The role of intelligent systems in the safety control of civil engineering works E.A. Portela	163