Contents

Effects of Soil Deposition on the Initial Stress State in Model Tests: Experimental Results and FE Simulation ........... 1
J. Vogelsang, H. Zachert, G. Huber and Th. Triantafyllidis

Demonstrator Experiments on Significant Effects During Pile Installation ......................................................... 21
J. Vogelsang, G. Huber and Th. Triantafyllidis

On Soil Deformation and Stress Redistribution Around Pressed-in and Vibrated Displacement Pile Tips .................. 41
J. Vogelsang, G. Huber and Th. Triantafyllidis

Modelling of Soil Structure Interaction by Applying a Hypoplastic Material Behaviour Within Mortar Contact Formulation ................................................................. 59
P. Dziewiecki, C. Weißenfels and P. Wriggers

Vibro-Injection Pile Installation in Sand: Part I—Interpretation as Multi-material Flow ........................................... 73
D. Aubram, F. Rackwitz and S.A. Savidis

Vibro-Injection Pile Installation in Sand: Part II—Numerical and Experimental Investigation ............................... 103
S.A. Savidis, D. Aubram and F. Rackwitz

Numerical Modelling of the Effective-Stress Evolution in Saturated Soil Around a Vibrating Pile Toe ....................... 133
V.A. Osinov
A Numerical Approach to the Solution of Dynamic Boundary Value Problems for Fluid-Saturated Solids ..................... 149
V.A. Osinov and C. Grandas-Tavera

Neohypoplasticity—Estimation of Small Strain Stiffness ............. 163
I. Loges and A. Niemunis

Improved Integration of High-Cycle Accumulated Strain Using Hierarchical and EAS Finite Elements ...................... 181
A. Niemunis and I. Melikayeva

Simulation of Soils Under Rapid Cyclic Loading Conditions ........ 207
W. Ehlers, M. Schenke and B. Markert

Experimental Strain Response-Envelopes of Granular Materials for Monotonous and Low-Cycle Loading Processes ............. 229
S. Danne and A. Hettler
Holistic Simulation of Geotechnical Installation Processes
Numerical and Physical Modelling
Triantafyllidis, T. (Ed.)
2015, VIII, 250 p. 141 illus., 114 illus. in color., Hardcover
ISBN: 978-3-319-18169-1