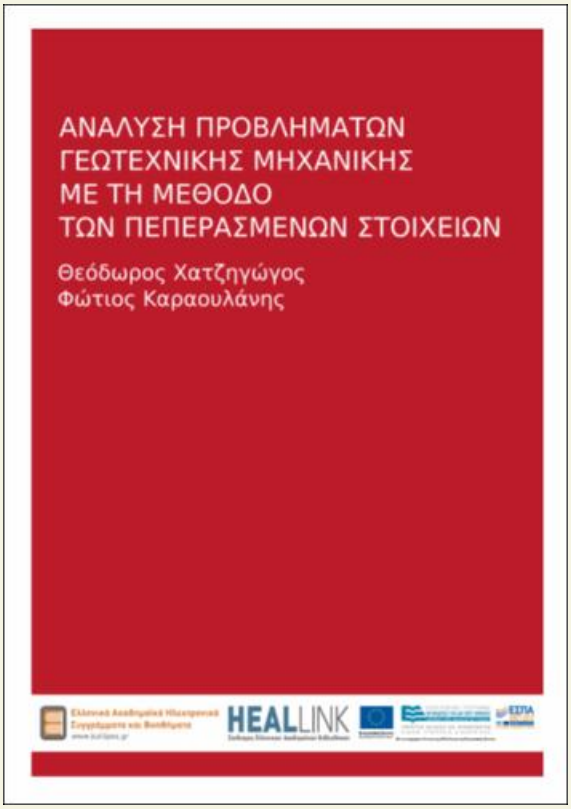

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Abstract

Numerical methods is one of the most important tools for the simulation and analysis of problems in Engineering in general, but also in Geotechnical Engineering in particular. The rapid development of computers in recent years, combined with the corresponding progress in the field of Computational Engineering, have essentially made the use of numerical methods, and especially the Finite Element Method, the exclusive choice when solving problems such as those of foundations, excavations, retaining walls and tunnelling in urban or non-urban environments. For this purpose, an understanding of the theory of the Finite Element Method and its application to geotechnical engineering problems is essential.

The book "Analysis of Geotechnical Engineering Problems by the Finite Element Method" attempts to introduce the reader to the process of simulating the physical problem as a process of synthesis of elements and techniques of the Finite Element Method. The book is structured in 3 main axes. 2. The understanding of the peculiarities of geotechnical problems when analyzing/simulating with the Finite Element Method. 3. The application of the Method, as a synthetic process, to Geotechnical Engineering problems. The book is addressed to undergraduate, postgraduate students and researchers in the field of Geotechnical Engineering and, in general, to engineers working on geotechnical problems.

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