



## METADATA

**Title:** Displacement method - exercises

**Other Titles:** -

**Language:** Greek

**ISBN:** 978-960-603-020-8

**Subject:** ENGINEERING AND TECHNOLOGY

**Keywords:** Statics / Structural Analysis / Displacement Method / Deformation Method / Statically Indeterminate Structures

**Bibliographic Reference:** Avramidis, I., & Morfidis, K. (2015). Displacement method - exercises [Undergraduate textbook]. Kallipos, Open Academic Editions. <http://dx.doi.org/10.57713/kallipos-913>

### Abstract

This book is mainly addressed to undergraduate students in Civil Engineering Departments who are taking courses such as STRUCTURAL ANALYSIS II, which deal with the solution of statically indeterminate structures using the Displacement Method (Slope-Deflection-Method). The book presents in detail a quite large series of selected exercises aimed at consolidating the understanding of the Displacement Method for calculating static quantities, i.e. internal forces and deformations, of statically indeterminate structures. To facilitate systematic and methodical practice, the exercises are classified into several groups corresponding to separate chapters. Each group of exercises pertains to a distinct part of

the theory, focusing on either how to apply the Displacement Method to the respective problem or to some special type of structural system such as beams, moment-frames, mixed structures, etc. Detailed solutions to the exercises are provided and frequent reminders of fundamental concepts and basic assumptions are made at various points to improve the understanding of the method and the calculation techniques through repetition. To simplify calculations and illustrate essential characteristics of the solution procedure, the exercises focus on planar structures, while still maintaining generality in the solution procedure. Still, an exercise involving a simple three-dimensional structure is also included.

