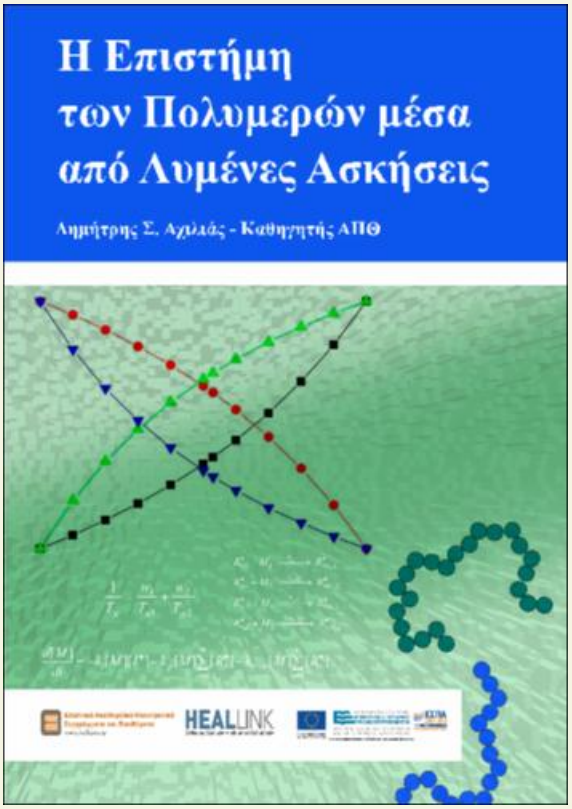

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Abstract

This book attempts to approach the science of polymers through solved exercises. Specifically, the book's content aims to consolidate the knowledge acquired from the theoretical courses on Polymer Science and Technology, through their application in solving specific problems of direct practical interest. The aim is to give students the sense that the science of polymers is not theoretical, but a science of application and problem solving. This book can be used by students of the Faculty of Science or Polytechnic and mainly of the Departments of Chemistry, Chemical Engineering, Mechanical Engineering, Physics, and Materials Science. It is written to include various areas of Polymer Science and Technology, including the kinetics of polymerization reactions (through the chain or step reaction mechanism), design of polymerization reactors, copolymerization, molecular, thermal, physicochemical, and mechanical properties of polymers, polymer transitions, polymers in solutions, viscoelasticity and finally some elements on polymer rheology. Each chapter includes 4 different sections. First, a brief review of the theory is made, mainly reporting the necessary equations, which will then be used to solve the exercises. The second section involves solving relatively simple basic-level problems (which are primarily aimed at undergraduates). In the third section, more complex problems are developed, some of which may also need numerical methods of solution, aimed at postgraduate students. Finally, in the last part, there are unsolved exercises, in which only the final result is given. Thus, it can be used as an aid in a multitude of theoretical courses that exist in the Science of Polymers.

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