A Matlab-Based Educational Tool for the Seismic Design of Flexibly Supported RC Buildings - DTU Orbit (13/12/2018)

This article presents a Matlab-based educational software developed at Aristotle University of Thessaloniki in Greece, in order to familiarize students and young engineers with fundamental concepts of structural dynamics and, in particular, soil-structure interaction problems. This user-friendly educational tool aims to assist the students in comprehending the nature of this complex phenomenon and the role played by the physical parameters involved, while increasing their awareness of the potential impact of neglecting soil flexibility during seismic design of reinforced concrete (RC) buildings. This software is also used as a case study for teaching the development of civil engineering-oriented applications in Matlab within a course where all the relevant material is provided online. Two demonstration examples are comparatively assessed to illustrate the applicability of the software and justify the necessity of its implementation in class, while the integration of the software in the curriculum as well as students' feedback is also discussed. (C) 2011 Wiley Periodicals, Inc.