

FDM AND FEM IN VARIABLE SECTION BEAM ANALYSIS

Summary – The paper shows that the finite differences method provides a simple and effective tool to analyse constructions with variable sections. A computer program was written on the basis of this method. With this program it possible to make calculations of the statics, dynamics and stability of beams with an arbitrary longitudinal profile. Moreover, boundary conditions (fixed and flexible supports) can be defined and the rectangular cross sections can be shaped in an arbitrary. Presently, the program is used to make analysis of a construction under distributed load, but it will also be able to account for other load type. Programs of this type can be used in engineering problems while designing beams with variable height.