About One 4th Order Boundary Value Problem With Nonlinear Potential: Numerical Realization

Abstract

We consider functionals of potential energy $\mathcal{P}_\psi(u)$ corresponding to *a rotary-symmetric boundary-value problem. We are dealing with bending of a thin intercircular plate* with *Neumann boundary conditions*. Various types of subsoil of the plate is described by *nondifferentiable $\psi(u)$*. The aim of the paper is to formulate suitable problem discretization and convergence analysis furthermore. The discretization is by means of *Semismooth Newton method*.