Investigation of Boundary Value Problems for Some Classes of Cusped Prismatic Shells

Boris Maistrenko

E-Mail: boris.maistrenko922@ens.tsu.edu.ge

Mathematics: Department of Mechanics

Tbilisi State University, 13 University Str.

Abstract

The cusped prismatic shells and beams appear in buildings, turbines, cutting machines, aerospace and so on. From the point of practice, corresponding mathematical model has to be constructed and in the framework of this model arise ordinary and degenerate partial differential equations and systems of equations and investigation of generally, non-classical problems. Hence it is actual and important to study and develop both analytical and numerical methods of solution.

In the PhD thesis will be investigated such hierarchical models, where stress vector (which is orthogonal to the projection of the prismatic shell) and displacement tangential vector components are known on the upper and lower surfaces of the prismatic shell and the thickness vanishes on some subset of the boundary of the projection or on the whole one.