

SOME MATHEMATICAL PROBLEMS RELATED TO THE FIRST
APPROXIMATION OF I.VEKUA'S THEORY FOR CUSPED
PRISMATIC SHELLS

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Abstract

The bending of a prismatic cusped shell described by the first approximation of I.Vekua's version of the theory of elastic prismatic shells is considered. Mathematically it leads to a Dirichlet type boundary value problem for a strongly elliptic system of differential equations with order degeneration on the boundary. The existence and uniqueness of generalized solutions of the corresponding boundary value problems in the weighted Sobolev spaces are proved.

Key words and phrases: Elliptic systems with order degeneration, weighted Sobolev space, bending of prismatic cusped shells.

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