Elastic Micropolar Prismatic Shells

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Using I.Vekua's dimension reduction method [1], [2] on the basis of the linear three-dimensional theory of micropolar elasticity [3] the governing system of the zeroth approximation of hierarchical models of prismatic shells is constructed. The governing system of the Nth approximation can be similarly constructed. The case of cusped prismatic shells is considered as well (for hierarchical models of cusped prismatic shells on the basis of the classical linear theory of elasticity see [2]).

References

[1] **Vekua, I.** Shell Theory: General Methods of Construction. Pitman Advanced Publishing Program, Boston-London-Melbourne, 1985

[2] **Jaiani, G.** Cusped Shell-like Structures. Springer Briefs. Springer-Heidelberg-Dordrecht-London-New York, 2011.

[3] **Kupradze, V.D., Gegelia, T.G., Basheleishvili, M.O., Burchuladze, T.V.:** Three-dimensional Problems of the Mathematical Theory of Elasticity and Thermoelasticity. North-Holland Publishing Company, Amsterdam, 1979