

On a Vibration Problem of the Cusped Beams in the (0,0) Approximation of the Hierarchical Models

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The aim of the present talk is to study well-posedness of initial-boundary value problems in case of (0,0) approximation of hierarchical models [1,2]. The peculiarities of setting of boundary value problems of the classical bending theory caused by sharpening of plates are established. The well-posedness of these problems have been studied. The problem mathematically leads to the system of the second order Fredholm type integral equation with symmetric kernel. Solution of the system is constructed in the form of absolutely and uniformly convergent series.

References

1. Vekua, I.N. On a way of calculating of prismatic shells. Proceedings of A.Razmadze Institute of Mathematics of Sciences, 21 (1955), 191-259 (Russian)
2. Jaiani, G. Cusped Shell-like Structures Springer, Heidelberg-Dorbrecht-London-New York, 2011