

# HIERARCHICAL MODELS FOR POROUS ELASTIC AND VISCOELASTIC KELVIN-VOIGT PRISMATIC SHELLS

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**Abstract.** The present paper is devoted to construction of hierarchical models for porous elastic and viscoelastic Kelvin-Voigt prismatic shells on the basis of linear theories. Governing systems are derived. In the  $N = 0$  approximation, considering plates of a constant thickness, governing systems mathematically coincide with the governing systems of the plane strain corresponding to the basic 3D linear theories [1] modulo a separate equation for the out of plane component of the displacement vector in our cases. The ways of investigation of BVPs and IBVPs, including the case of cusped prismatic shells [2], are indicated and some preliminary results are presented.

## REFERENCES

- [1] D. Iesan, Classical and Generalized Models of Elastic Rods, CRC Press, A. Chapman Hall Book, 2009.
- [2] G. Jaiani, Cusped Shell-Like Structures, Springer, Heidelberg-Dordrecht- London-New York, 2011.