INFLUENCE OF DIFFERENT PHYSICAL FIELDS ON SETTING BOUNDARY CONDITIONS FOR CUSPED PRISMATIC BODIES

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We consider well-posedeness of two-dimensional BVPs within the framework of hierarchical models for cusped prismatic shells, plates, and bars on the basis of classical [1] and micropolar theories of elasticity, taking into account microtemperatures [2] and voids. We discuss peculiarities of setting boundary value conditions for displacements, inner rotations, couple stress vectors, tractions, temperatures, microtemperatures, and volume fraction functions. We carry out comparative analysis as well.

References

1. Jaiani, G.: Cusped Shell-like Structures, SpringerBriefs in Applied Science and Technology, 84 p., Springer-Heidelberg-Dordrecht-London-New York (2011).
2. Jaiani, G.: Differential Hierarchical Models for Elastic Prismatic Shells with Microtemperatures. ZAMM - Z. Angew. Math. Mech., DOI 10.1002/zamm. 201300016, 95 (1), 77-90, (2015).