On the Justification of a Contact Problem for Generalized Membrane Shells

Ángel Arós

We consider a three-dimensional model for generalized linear elastic membrane shells in contact with a deformable obstacle and we study the convergence of the solution of this model towards the solutions of the corresponding models for two-dimensional elastic generalized membrane shells when the small parameter of the model (thickness) tends to zero, all depending on the type of boundary conditions, curvature of the middle surface and description of the applied forces. We also show the convergence to the solution of the corresponding Koiter shells models under these conditions.

References

[1] P.G. Ciarlet, *Mathematical Elasticity. Vol. III: Theory of Shells*, GStudies in Mathematics and its Applications (2000)

First Author: Ángel Arós
Affiliation 1: *Centro de Investigación e Tecnoloxía Matemática de Galicia (CITMAga)*
Edif. Instituto Investigaciones Tecnológicas, planta -1.
Rúa de Constantino Candeira s/n. Campus Vida
15011, Santiago de Compostela (Spain)
Affiliation 2: *Departamento de Matemáticas, Universidade da Coruña*
ETS Náutica e Máquinas, Paseo de Ronda, 51 *15011, A Coruña (Spain)*
e-mail: angel.aros@udc.es