
ADEL BLOUZA, Université de Rouen

Finite element approximations of Naghdi's shell model in cartesian coordinates

We present a mixed formulation of Naghdi's model for linearly elastic shells with little regularity, and a conforming finite element approximation thereof. The a posteriori analysis of the discrete problem leads to the construction of error indicators which satisfy optimal estimates. We then describe a mesh adaptativity strategy based on these indicators. We also use them to optimize the choice of the penalty parameter of our discretization. Numerical tests are given that validate and illustrate our approach.