The Meccano Method for Isogeometric Analysis of Planar Domains

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4.- Abstract.:

The authors have recently introduced the meccano method for tetrahedral mesh generation and volume parameterization of solids. In this paper, we present advances of the method for T-spline modelling and analysis of complex geometries. We consider a planar domain composed by several irregular sub-domains. These sub-regions are defined by their boundaries and can represent different materials. The bivariate T-spline representation of the whole physical domain is constructed from a square. In this procedure, a T-mesh optimization method is crucial. We show results of an elliptic problem by using a quadtree local T-mesh refinement technique.