

# Mesh Generation and Isogeometric Analysis

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## Abstract

We present advances of the meccano method [1,2] for tetrahedral mesh generation and volumetric parameterization of solids. The method combines several former procedures: a mapping from the meccano boundary to the solid surface, a 3-D local refinement algorithm and a simultaneous mesh untangling and smoothing. The key of the method lies in defining a one-to-one volumetric transformation between the parametric and physical domains. Results with adaptive finite elements will be shown for several engineering problems. In addition, the application of the method to T-spline modelling and isogeometric analysis [3,4] of complex geometries will be introduced.

## References

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