

Advances in the construction and application of U-splines

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ABSTRACT

Work at Coreform on the development of a commercial platform for isogeometric analysis has identified the construction of smooth splines over unstructured meshes as a major obstacle to effective use of isogeometric methods in industrial applications. Significant research effort at Coreform has been devoted to overcoming this obstacle. The result of this work is a technology we have termed U-splines. In this talk we will present recent advances in the definition, construction, and properties of U-splines. We will also demonstrate applications in which the flexibility of the U-spline construction provides significant advantages.