## **Trimmed T-splines Conversion**

## Xin Li<sup>1</sup>, Tom Sederberg<sup>2</sup>

<sup>1</sup> USTC, China,E-mail lisustc@ustc.edu.cn <sup>2</sup> School of Computer Science, BYU, , E-mail tom@cs.byu.edu

**Key Words:** *T-splines, analysis-suitable T-splines, iso-geometric analysis, local refinement.* 

T-splines [1, 2] are a superior alternative to NURBS, the current geometry standard in computer-aided design systems. T-Splines were created to address problems inherent in NURBS surfaces. Isogeometric analysis was introduced in [3] which used the smooth spline basis that defines the geometry as the basis for analysis. With T-splines and IGA, Traditional design-through-analysis procedures such as geometry clean-up, defeaturing, and mesh generation are simplified or eliminated entirely. This talk overviews the mathematics of T-Splines and explains how they can be used to create an analysis-suitable models for in isogeometric analysis from a BRep NURBS or T-spline models.

## **REFERENCES**

- [1] T. W. Sederberg, J. Zheng, A. Bakenov, A. Nasri, T-splines and T-NURCCs, ACM Trans. Graph. 22 (2003) 477-484.
- [2] T. W. Sederberg, D. L. Cardon, G. T. Finnigan, N. S. North, J. Zheng, T. Lyche, T-spline simplification and local re\_nement, ACM Trans. Graph. 23 (2004) 276-283.
- [3] T. J. R. Hughes, J. A. Cottrell, Y. Bazilevs, Isogeometric analysis: CAD, \_nite elements, NURBS, exact geometry, and mesh re\_nement, Computer Methods in Applied Mechanics and Engineering 94 (2005) 4135-4195.