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Einladung zum

Mathematischen Kolloquium

Am Mittwoch, dem 16. Mai 2018, um 16:30 Uhr im Hörsaal des
Mathematischen Instituts (Raum 203), Weyertal 86–90, 50931 Köln

Es spricht

Prof. Dr. Bert Jüttler
Johannes Kepler University, Linz/Austria

zum Thema

Computational Challenges Associated with Isogeometric Analysis on 3D Domains

The framework of Isogeometric Analysis was introduced by T.J.R. Hughes et al. in 2005 in order to enhance the interaction between geometric design and numerical simulation. In particular, it aims to reconcile the representations of geometric objects which are used in software for Computer-Aided Design (CAD) with the mathematical technology of the finite element method. While this approach opens numerous new possibilities, it also creates new computational challenges. The talk will focus on two of them, which arise in the context of numerical simulations on three-dimensional domains: First, we will discuss the difficulties associated with generating trivariate domain parameterizations from geometric models in boundary representation (B-reps). Second, we will present a method for improving the efficiency of the matrix assembly process in isogeometric analysis. Joint work with A. Mantzaflaris and B. Strodthoff

Tee um 16 Uhr in der Bibliothek des Mathematischen Instituts.

Alle Interessenten sind herzlich eingeladen.

Die Dozenten der Mathematik