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Österreichische Akademie der Wissenschaften

RICAM
JOHANN·RADON·INSTITUTE FOR COMPUTATIONAL AND APPLIED MATHEMATICS

Johann Radon Institute for Computational and Applied Mathematics
der
Österreichischen Akademie der Wissenschaften

Group Seminar

Group: Computational Methods for Direct Field Problems
(Symbolic Computation)

Dr. Sven Beuchler

RICAM

"Sparse high-order shape functions for H(curl) and H(div)"

In this talk, we construct high order polynomial functions on triangular and tetrahedral meshes in H(curl) and H(div).
We prove that the presented basis functions form a orthogonal system.
In H(curl), the orthogonality of all basis functions to each other is shown for the 2D case. In the 3D-case, all basis functions are orthogonal to most of the other basis functions. The proofs requires Mathematica packages which are derived by Veronika Pillwein.

The talk might be also of interest for the symbolic people.

Friday, December 12, 2008, 13:00
Johannes Kepler Universität, HF136