Informatik-Kolloquium

Rheinisch-Westfälische Technische Hochschule Aachen
Fachgruppe Informatik

RWTH

EINLADUNG

Zeit:	Mittwoch, 25. Oktober 2006, 11.00 Uhr
Ort:	Raum 6317, E2, 3. Etage, Ahornstr. 55
Referent:	Dr. Pierre Alliez INRIA GEOMETRICA
Thema:	Surface Tiling through Contouring

Abstract We present an approach for designing quadrangle surface tilings from arbitrary triangulated surface meshes. Our algorithm computes two piecewise smooth harmonic scalar functions, whose isolines tile the input surface into well-shaped quadrangles, without any T-junctions. Our main contribution is an extension of the discrete Laplace operator which encompasses several types of line singularities. The resulting two discrete differential 1-forms are either regular, opposite or switched along the singularity graph edges. We show that this modification guarantees the continuity of the union of isolines across the lines, while the locations of the isolines themselves depend on the global solution to the modified Laplace equation over the whole surface. Design flexibility is provided through specification of the type of each line singularity at each edge of the graph, as well as the number of isolines along independent meta-edges to control local mesh sizing.

Es laden ein: Die Dozenten der Informatik