

A U S H A N G

FREIE UNIVERSITÄT BERLIN
Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

DISPUTATION

Dienstag, 9. Februar 2016, 10.00 Uhr

Ort: Raum 108/109, Arnimallee 6, 14195 Berlin

Disputation über die Doktorarbeit von

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Thema der Dissertation:

Quad Layout Generation and Symmetric Tilings of Closed Surfaces

Thema der Disputation:

Mesh parameterization and quad layout

Die Arbeit wurde unter der Betreuung von **Prof. Dr. K. Polthier** durchgeführt.

Abstract: Parameterization is one of the most important tool used in discrete differential geometry and computer graphics. It is the process of taking a surface and mapping it to the plane. All known quantities from the Euclidean plane can then be transferred onto the surface by the inverse mapping. It is still a challenging problem to automatically generate a low distortion parameterization of a surface, such that recent state of the art algorithms either use a mixed integer formulation or a non linear optimization. In the first part of the presentation, I will review some state of the art global parameterization methods, introducing the notion of frame field, singularities and periodic parameterization. In the second part of the presentation, I will introduce a new approach to generate quad layout, a cell decomposition of a surface into quadrilateral patches which induces a more structured type of parameterization suitable for base domain for subdivision surfaces, high-order surface fitting, deformation and many more.

Die Disputation besteht aus dem o. g. Vortrag, danach der Vorstellung der Dissertation einschließlich jeweils anschließenden Aussprachen.

Interessierte werden hiermit herzlich eingeladen

Der Vorsitzende der Promotionskommission
Prof. Dr. K. Polthier