

A U S H A N G

FREIE UNIVERSITÄT BERLIN

Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

D I S P U T A T I O N

Donnerstag, 30. April 2020, 14:15 Uhr

Ort: WebEx Meeting

(<https://fu-berlin.webex.com/fu-berlin/j.php?MTID=m0e81a843519d753b5e352a02564bb12d>)

Disputation über die Doktorarbeit von

Herrn Boris Klemz

Thema der Dissertation:

Facets of Planar Graph Drawing

Thema der Disputation:

The SPQR-tree and Its Applications

Die Arbeit wurde unter der Betreuung von **Prof. Dr. G. Rothe** durchgeführt.

Abstract:

The SPQR-tree represents the decomposition of a biconnected graph into its triconnected components. It can often be employed to extend algorithms for triconnected graphs to the biconnected case. Combined with the block cut tree, it provides an implicit representation of all combinatorial embeddings of a planar graph, which allows for efficient optimization over all possible embeddings. As such, the SPQR-tree is a frequently used tool in particular in graph drawing and dynamic graph algorithms.

We will introduce the SPQR-tree and state some of its properties, with an emphasis on the connection to graph embeddings. We proceed with examples that illustrate how the data structure is employed. Finally, we will give a short overview of the relevant application areas.

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

Die Disputation findet aufgrund der besonderen Situation in alternativer Form mittels Videotelefonie via WebEx statt.

Interessierte werden hiermit herzlich eingeladen

[Link zur Disputation \(via WebEx\)](https://fu-berlin.webex.com/fu-berlin/j.php?MTID=m0e81a843519d753b5e352a02564bb12d)

Der Vorsitzende der Promotionskommission
Prof. Dr. G. Rothe