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, 14. Juli 2022, 11:00 Uhr

WebEx

Disputation über die Doktorarbeit von

Herrn Jonathan Kliem

Thema der Dissertation:
Applications of Topology, Combinatorics and Algorithms to Discrete Geometry

Thema der Disputation:
Thieves and Necklaces

Die Arbeit wurde unter der Betreuung von **Prof. Dr. F. Frick** durchgeführt.

Abstract: Can a necklace with ka_i beads of colour i be fairly divided among k thieves by at most (k-1)n cuts?
This problem is simple to state, but has two interesting perspectives:
The answer is yes by a classical application of the Borsuk-Ulam theorem for two thieves and a generalization for more thieves. However, this non-constructive proof does not determine the solution.
In general, finding the solution can be challenging. This observation has been formalized recently by Filos-Ratsikas and Goldberg by showing that the task of splitting a necklace among 2 thieves with n cuts is a PPA-complete problem.
We will gather some notions and techniques used for the above results.

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. F. Frick