

SALZBURG MATHEMATICS COLLOQUIUM

Winter 2022/2023

Matthias Reitzner (Osnabrück)

„Crossings“

October 20, 2022

Abstract:

Let G be an (abstract) graph. A drawing of G is a planar realization where the vertices are points and two points are connected by a line segment. The crossing number of the graph counts how many line segments cross.

Assume that G is the random geometric graph over a Poisson point process. Two points are connected by an edge if and only if their distance is bounded by a prescribed distance. We show that projecting the graph onto a two-dimensional plane is expected to yield a constant-factor crossing number approximation. We also show that the crossing number is positively correlated to the stress of the graph's projection.

Thursday, **15:00-15:45**

Hörsaal 414, 1. Stock