DEZEMBER
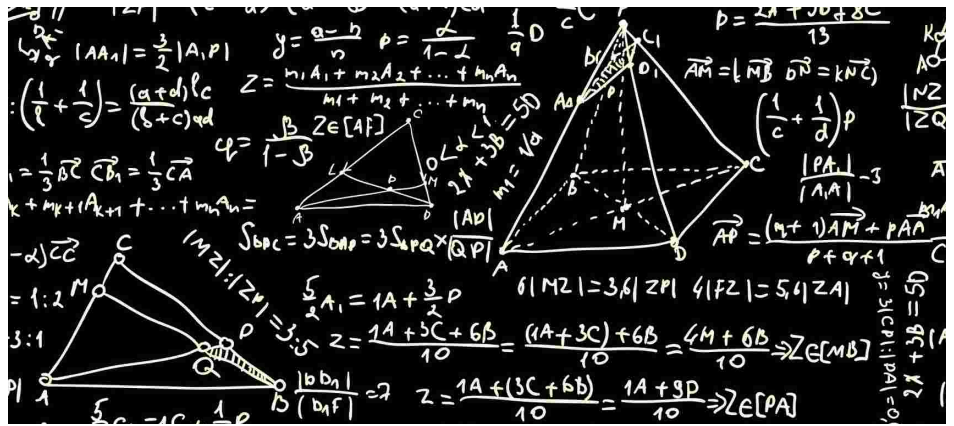
18

16:00

Mathematik Kolloquium Innsbruck

Wolfgang Woess

TU Graz

The Language of Self-Avoiding Walks

Let X=(VX,EX) be the Cayley graph of a finitely generated group with respect to a finite, symmetric set of generators. We consider the edges to be oriented. Each oriented edge is labeled by an element of a finite alphabet Σ corresponding to the generating set.

For any vertex o of X, consider the language of all words over Σ which can be read along self-avoiding walks starting at o. We characterize under which conditions on the graph structure this language is regular or context-free. This is the case if and only if the graph has more than one end in the sense of Freudenthal and Halin, and the size of all ends is 1, or at most 2, respectively. (In particular, the underlying group must be virtually free.)

The results apply more generally to quasi-transitive graphs whose edges are deterministically labeled. This is based on joint work with Christian Lindorfer.

Mittwoch 18. Dezember 2019, 16:00 Uhr, HSB 4

Tee und Kaffee ab 15:30 Uhr im Institut für Mathematik

Gäste und Studierende sind herzlich willkommen!

Institut für Mathematik, Universität Innsbruck, Technikerstraße 13, 7. Stock