universität innsbruck

Department of Mathematics

Inn'formal Probability Seminar

Philip Easo (ETH Zurich)

"Cutsets and percolation"

Abstract:

The classical Peierls argument establishes that percolation on a graph G has a non-trivial (uniformly) percolating phase if G has "not too many small cutsets". Severo, Tassion, and I have recently proved the converse. Our argument is inspired by an idea from computer science and fits on one page. Our new approach also resolves a conjecture of Babson of Benjamini from 1999 and provides a much simpler proof of the celebrated result of Duminil-Copin, Goswami, Raoufi, Severo, and Yadin that percolation on any transitive graph with superlinear growth undergoes a non-trivial phase transition.

Friday | 9.01.2025 | 16.00
HSB2 | Civil engineer building