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Tropically Planar Graphs

Abstract for the Combinatorics Seminar 2019 October 22

In this talk I study tropically planar graphs, which are the graphs that appear in smooth tropical plane curves. I present necessary conditions for graphs to be tropically planar, as well as computational results for the number of tropically planar graphs up to genus 7. I then prove non-trivial upper and lower bounds on the number of tropically planar graphs, and I show that asymptotically 0% of connected trivalent planar graphs are tropically planar.

This is joint work with Desmond Coles, Neelav Dutta, Sifan Jiang, and Andrew Scharf.