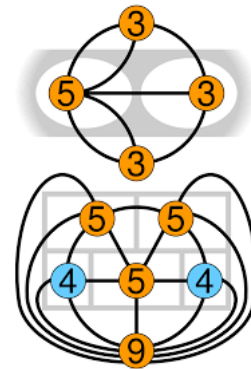


Oberseminar Geometrie
Department of Mathematics
University of Fribourg
Physics 2.52
Wednesday, 2 March 2022, 10:20



LIVIO LIECHTI (UNIFR)

Multicurve intersection degrees

A multicurve on a surface is a disjoint union of simple closed curves. Given two multicurves that fill a closed surface, we encode the number of intersections of the curves in a nonnegative matrix, which turns out to be irreducible. In what way does the algebraic degree of the Perron-Frobenius eigenvalue depend on the topology of the surface? Does it depend on which n -gons appear, and how often, in the polygonal decomposition of the surface induced by the multicurves? We discuss recent joint work with Erwan Lanneau, in which we show that every algebraic degree up to the genus of the surface can be realised, independently of this data. Our result has applications in pseudo-Anosov theory and Teichmüller dynamics.