

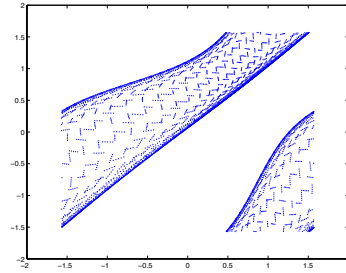
Oberseminar Geometrie

Department of Mathematics

University of Fribourg

Seminar room, Math II (Lonza)

Wednesday December 19, 2018, 10:20-12:00



IVAN IZMESTIEV (Fribourg)

Cross-ratio dynamics on ideal polygons

Let us call two ideal n -gons in the hyperbolic plane or the hyperbolic space orthogonal if their respective sides are perpendicular. A generic polygon is orthogonal to two others. This produces a sequence in which consecutive polygons are orthogonal.

In this talk I will show that the corresponding dynamics on the space of polygons is well-behaved: there is a Poisson bracket preserved by the orthogonality relation, and (almost) $n/2$ commuting integrals. I will explain relations to Coxeter's frieze patterns and discrete holomorphic maps.

This is a joint work with Maxim Arnold, Dmitry Fuchs, and Sergei Tabachnikov.