Entropy of Hilbert geometries

Nicolas Tholozan

A proper convex domain of $\mathbb{R}\mathbf{P}^n$ can be provided with several "natural" metrics (i.e. preserved by projective transformations). The most famous one is the Hilbert metric, for which projective segments are geodesics.

I will describe a comparison result between the Hilbert metric and the Blaschke metric, a Riemannian metric that arises in the theory of affine spheres. This result will allow us to show that the volume entropy of a Hilbert metric is at most $n - 1$.

If time permits, I will mention another application to the study of the length spectrum of convex projective structures on surfaces.