

Observations on (non-)visibility with respect to
Kobayasi distance
24/04/2023
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It is well-known that the unit disc in \mathbb{C} equipped with the Poincaré metric is a hyperbolic Riemannian manifold. Therefore, it is natural to study the hyperbolicity of Kobayashi distance on domains in \mathbb{C}^n . However, in general Kobayashi distance is not given by a Riemannian metric therefore it is often not possible to study its curvature.

Visibility property is a property of "hyperbolic" geodesics spaces and roughly speaking it means that geodesics joining points which tend to the boundary bend inside the space.

In this talk, we study the visibility property with respect to Kobayashi geodesics on complete hyperbolic domains. We clarify the relation of visibility with the growth of Kobayashi distance. As a consequence, we deduce geometric conditions of the boundary of non-visible convex domains. As a partial converse, we show that if the boundary of a convex domain satisfies certain conditions then the domain is non-visible with respect to certain Kobayashi "almost"-geodesics.

The content of this talk is work in progress under supervision of Pascal Thomas.