Convexity and smoothness of quasihyperbolic metric on Banach spaces

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Quasihyperbolic (QH) metric is a weighted metric on a path connected metric space motivated by looking at invariants of Mšbius transforms of the unit disk. In this talk the metric is given on an open path-connected non-trivial subset of a Banach space. It turns out that many properties of the underlying Banach space are visible in the QH geometry. We summarize our recent results on the convexity and smoothness of quasihyperbolic balls and smoothness of QH geodesics.

Joint work with A. Rasila.