A Riemannian Metric and Hausdorff Dimension on the Mandelbrot Set

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In this talk, we introduce a Riemannian metric on hyperbolic components of the Mandelbrot set. As an application, we show that the Hausdorff dimension function has no local maximum on any hyperbolic component. Along the way, we introduce multiplier functions for invariant probability measures on Julia sets, which is a key ingredient in the construction of our metric. This is joint work with Hongming Nie.