

# Cantor bouquets in the iteration of entire functions and Hausdorff dimension

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The Julia set of some entire functions is a Cantor bouquet of curves (called hairs or rays) whose endpoints form a big set in terms of Hausdorff dimension. The simplest examples of such maps are complex exponentials having an attracting fixed point.

Starting with basic properties of Hausdorff dimension we shall estimate in details the dimension of endpoints and hairs without endpoints for exponentials. We shall show how sensitively it depends on the rate of growth of itineraries. We shall also present some techniques which can be used to estimate the Hausdorff dimension of the set of non-escaping points. Finally we shall discuss several results which extend what is known for exponentials to a wider class of entire maps.