Pointwise regularity of self-affine zipper curves

Gergely KISS

Résumé

Self-affine zipper curves are defined as the attractor of an Iterated Function System of contracting affine transformations that satisfy certain cross-conditions. In my talk we discuss the pointwise regularity of zipper fractal curves under the assumption of dominated splitting of index-1. We estimate the Hausdorff dimension of the level sets of the pointwise Hölder exponent for a subinterval of the spectrum. If the pointwise regular Hölder exponent exists for Lebesgue almost every point, then we can extend the multifractal analysis to the full spectrum. As an illustration, we apply our results for parametrized De Rham curves. The talk is based on a joint work with B. Bárány (BME) and I. Kolossváry (Rényi Institute).