Oberseminar Geometrie
Department of Mathematics
University of Fribourg
Lecture room 2.52 Physics
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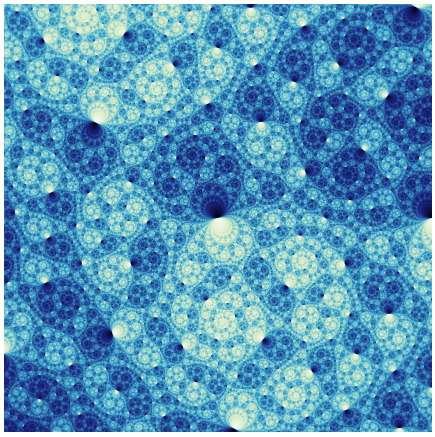

Annina Iseli (UniFR)

Dimension preservation under linear-fractional projections

Marstrand's theorem (1954) states that given a Borel set A in the Euclidean plane, the Hausdorff dimension of the image of A under the orthogonal projection onto a line L equals the smaller of 1 and dimA, for almost every line L that contains the origin. This theorem has since been generalized to higher dimensions as well as to various different spaces that carry natural families of projection mappings.

In the first part of this talk, I will recall some of these generalizations and the different methods used to prove them. In the second part, I am going to present some recent results (joint with A. Lukyanenko) about projection theorems for families of projections that are induced by either Möbius transformations or real linear fractional transformations.