

Universität zu Köln

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Complex Dimensions of Cantor Strings and the Riemann Zeros

Abstract:

After giving an overview of the idea of complex dimension, as conceived by Michel Lapidus and developed with collaborators, I will discuss the special class of Cantor strings. On this class, the spectral operator is invertible, thus yielding that the zeros of the Riemann zeta function do not lie in a vertical arithmetic progression. In closing, I will discuss how a strengthening of this theorem to uniformly finite vertical progressions would yield a zero free region of the Riemann zeta function.