

1077-11-2341

Machiel van Frankenhuijsen* (vanframa@uvu.edu), Utah Valley University, Department of Mathematics, 800 West University Parkway, Orem, UT 84058. *Complex Dimensions of Cantor Strings and the Riemann Zeros.*

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. In 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. (Received September 22, 2011)