
In Fractal Zeta Functions and Fractal Drums, Lapidus et al. study the geometry of bounded subsets of Euclidean space by associating “fractal zeta functions” to these sets. These fractal zeta functions make it possible to rephrase many problems in geometry as problems in complex analysis. The theory can be generalized to a larger class of metric spaces, but the generalization relies on embeddings of a set into an ambient space of known dimension. In this talk, we introduce a notion of “local fractal zeta functions,” which have many properties analogous to those of the fractal zeta functions described by Lapidus et al., but which are defined without embeddings into an ambient space. (Received September 03, 2019)