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Alexander M Henderson* (henderson@math.ucr.edu), UCR Math Department / Skye 202,
900 University Ave, Riverside, CA 92521. *Local Fractal Zeta Functions*. Preliminary report.

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 10, 2019)