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Driss Essouabri* (driss.essouabri@univ-st-etienne.fr), University Jean Monnet (Saint-Etienne), Department of Mathematics, 23 rue du Dr Paul Michelon, 42023 Saint-Etienne, France. *Arithmetic, Fractality and zeta functions*. Preliminary report.

Spectral zeta functions and their complex dimensions are important tools in the study of fractal strings and their multivariate analogues. In this talk we will give some results on analytic continuation and will describe the complex dimensions of a suitable family of zeta functions associated to a class of “self-similar arithmetic” sets. As an application, we will give some geometric and spectral information of these sets. (Received September 03, 2009)