

The q -entropy and fractal strings

Nikolaos Kalogeropoulos¹

¹German University In Cairo, New Cairo, Egypt

We present a system, called fractal strings, which was developed by M. Lapidus, over the last thirty years, which may provide a toy model for systems described by q -entropies. The meaning of the non-extensive parameter q is interpreted as a dimension, even though its value is not unique, and is generically a complex number. We establish a connection with the works of Wilk-Włodarczyk on their proposal that q be a complex number, and of Gazeau-Tsallis on the behavior of q under Möbius transformations. We comment on the interpretation of the real and complex parts of q .