1078-11-265

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After recalling some properties of discrete self-similar sets and their zeta functions, we will give two applications to these notions. The first one address the Erdos distance problem for increasing families of subsets of a discrete self-similar set. The second application treats a subject in the diophantine approximation of a vector of real algebraic integers. In particular, this second application extends (partially) a classical result of Mahler beyond the case of quadratic irrationalities which he studied. (Received December 11, 2011)