Mean equicontinuity, amorphic complexity and substitution systems II

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We study amorphic complexity, tameness, and nullness in systems arising from constant length substitutions. A closed formula for the amorphic complexity of any minimal automatic system will be provided. It is further shown that tameness or nullness of such systems can be characterized succinctly through amorphic complexity: an infinite minimal automatic system is tame if and only if it is null, which occurs precisely when its amorphic complexity is one. Our proof uses methods from fractal geometry and introduces some new dynamically-defined pseudometrics. These methods seem suitable for study of other systems of S-adic nature including Toeplitz subshifts.

This is a second part of a two-part, with the first part to be presented by M. Gröger, where the definition and motivation for amorphic complexity will be presented.