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Mathematical Physics

On the Existence of a Self-Similar Coarse Graining of a Self-Similar Space

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(Submitted on 21 Jul 2011)

A topological space homeomorphic to a self-similar space is demonstrated to be self-similar. There exists a self-similar space S whose coarse graining is homeomorphic to S. The coarse graining of S is, therefore, self-similar again. In the same way, the coarse graining of the self-similar coarse graining of S is, furthermore, self-similar. These situations succeed endlessly. Such a self-similar S is generated actually from an intense quadratic dynamics.

Submission history

From: Tomoyuki Yamamoto [view email]
[v1] Thu, 21 Jul 2011 05:16:39 GMT (74kb)

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