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Second Order Ergodic Theorem for Substitution Tiling Systems.

We consider infinite measure-preserving non-primitive self-similar tiling systems in Euclidean space \mathbb{R}^d . We establish the second-order ergodic theorem for such systems, with exponent equal to the Hausdorff dimension of a graph-directed self-similar set associated with the substitution rule. (Received September 04, 2013)