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Effective symbolic dynamics. (English) [Zbl 1262.37008](#)

Dilhage, R. (ed.) et al., Proceedings of the fourth international conference on computability and complexity in analysis (CCA 2007), Siena, Italy, June 16–18, 2007. Amsterdam: Elsevier. Electronic Notes in Theoretical Computer Science 202, 89–99 (2008).

Summary: We investigate computable subshifts and the connection with effective symbolic dynamics. It is shown that a decidable Π_1^0 class P is a subshift if and only if there is a computable function F mapping $2^{\mathbb{N}}$ to $2^{\mathbb{N}}$ such that P is the set of itineraries of elements of $2^{\mathbb{N}}$. A Π_1^0 subshift is constructed which has no computable element. We also consider the symbolic dynamics of maps on the unit interval.

For the entire collection see [\[Zbl 1172.03301\]](#).

MSC:

[37B10](#) Symbolic dynamics
[03D45](#) Theory of numerations, effectively presented structures
[03D78](#) Computation over the reals, computable analysis

Cited in 4 Documents

Keywords:

[computability](#); [symbolic dynamics](#); [\$\Pi_1^0\$ classes](#)

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