Jeandel, Emmanuel; **Vanier, Pascal**

Π_1^0 **sets and tilings.** (English) Zbl 1333.03109

Ogihara, Mitsunori (ed.) et al., Theory and applications of models of computation. 8th annual conference, TAMC 2011, Tokyo, Japan, May 23–25, 2011. Proceedings. Berlin: Springer (ISBN 978-3-642-20876-8/pbk). Lecture Notes in Computer Science 6648, 230-239 (2011).

Summary: In this paper, we prove that given any Π_1^0 subset P of $\{0,1\}^{\mathbb{N}}$ there is a tileset τ with a countable set of configurations C such that P is recursively homeomorphic to $C\setminus U$ where U is a computable set of configurations. As a consequence, if P is countable, this tileset has the exact same set of Turing degrees.

For the entire collection see [Zbl 1213.68052].

MSC:

03D28 Other Turing degree structures
03D15 Complexity of computation (including implicit computational complexity)
52C20 Tilings in 2 dimensions (aspects of discrete geometry)

Full Text: DOI

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