

**Allouche, Jean-Paul; Shallit, Jeffrey**

**The ubiquitous Prouhet-Thue-Morse sequence.** (English) [Zbl 1005.11005](#)

Ding, C. (ed.) et al., Sequences and their applications. Proceedings of the international conference, SETA '98, Singapore, December 14-17, 1998. London: Springer. Springer Series in Discrete Mathematics and Theoretical Computer Science. 1-16 (1999).

Summary: We discuss a well-known binary sequence called the Thue-Morse sequence, or the Prouhet-Thue-Morse sequence. This sequence was introduced by *A. Thue* in 1906 (see [JFM 39.0283.01](#)) and rediscovered by *M. Morse* [Recurrent geodesics on a surface of negative curvature, *Trans. Am. Math. Soc.* 22, 84–100 (1921; [JFM 48.0786.06](#))]. However, it was already implicit in an 1851 paper of Prouhet. The Prouhet-Thue-Morse sequence appears to be somewhat ubiquitous, and we describe many of its apparently unrelated occurrences.

For the entire collection see [\[Zbl 0974.00035\]](#).

**MSC:**

[11B85](#) Automata sequences

[68R15](#) Combinatorics on words

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**Keywords:**

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