

[van den Dries, Lou](#)

Tarski's problem and Pfaffian functions. (English) [Zbl 0616.03018](#)

Logic colloq. '84, Proc. Colloq., Manchester/U.K. 1984, Stud. Logic Found. Math. 120, 59-90 (1986).

[For the entire collection see [Zbl 0587.00004](#).]

This is an update of the author's "Remarks on Tarski's problem concerning $(\mathbb{R}, +, \cdot, \exp)$ " [Logic colloquium '82, Proc. Colloq., Florence 1982, Stud. Logic Found. Math. 112, 97-121 (1984; [Zbl 0585.03006](#))]. The major new tool is the use of Pfaffian functions and cells, inspired by *A. G. Khovanski's* "On a class of systems of transcendental equations" [Dokl. Akad. Nauk SSSR 255, 804-807 (1980; [Zbl 0569.32004](#))]. A minor new tool is (a hybrid application of) nonstandard analysis. The new "ultimate goal" is the Decomposition Conjecture: The zero set of a Pfaffian function is a finite disjoint union of Pfaffian cells. The author describes how far one got and how he plans to proceed further.

Reviewer: [G.Fuhrken](#)

MSC:

[03C10](#) Quantifier elimination, model completeness and related topics

[26B99](#) Functions of several variables

Cited in **2** Reviews
Cited in **5** Documents

Keywords:

[Pfaffian functions](#); [nonstandard analysis](#); [Decomposition Conjecture](#); [Pfaffian cells](#)