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Title: Effective results for hyper- and superelliptic equations over number fields

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Let f be a polynomial with coefficients in the ring O_S of S -integers of a given number field K , b a non-zero S -integer, and m an integer ≥ 2 . Suppose that f has no multiple zeros. We consider the equation $(*)$ $f(x) = by^m$ in $x, y \in O_S$. In the present paper we give explicit upper bounds in terms of K, S, b, f, m for the heights of the solutions of $(*)$. Further, we give an explicit bound C in terms of K, S, b, f such that if $m > C$ then $(*)$ has only solutions with $y = 0$ or a root of unity. Our results are more detailed versions of work of Trelina, Brindza, and Shorey and Tijdeman. The results in the present paper are needed in a forthcoming paper of ours on Diophantine equations over integral domains which are finitely generated over $\mathbb{Z}$.

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