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Andrew Bremner* (bremner@asu.edu), Dept. Math & Stats, Arizona State University, Tempe, AZ 85287-1804, and **Nikos Tzanakis**. *On the Diophantine equation $y^2 = x^6 + k$.*

We investigate rational solutions of the Diophantine equation $y^2 = x^6 + k$, and find all solutions in the range $|k| \leq 20$. Some cases (eg $k = 15$) require considerable work in algebraic number fields. (Received February 20, 2007)