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Title: Bounds for Diophantine quintuples II

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A set of positive integers $a_1, a_2, \dots, a_m$ with the property that $a_i a_j + 1$ is a perfect square for all distinct indices i and j between 1 and m is called Diophantine. In this paper, we show that if $\{a, b, c, d, e\}$ is a Diophantine quintuple with $a < b < c < d < e$ and $g = \gcd(a, b)$, then $b > 3ag$; moreover, if $c > a + b + 2\sqrt{ab + 1}$ then $b > \max\{24ag, 2a^{3/2}g^2\}$. Similar results are given assuming that either ab is odd or $c = a + b + 2\sqrt{ab + 1}$.

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