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Title: On a pure ternary exponential Diophantine equation

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Let r be a positive integer with $r > 1$ and m a positive even integer. Let $a = |V(m, r)|$, $b = |U(m, r)|$, and $c = m^2 + 1$, where $V(m, r) + U(m, r)\sqrt{-1} = (m + \sqrt{-1})^r$. In this paper we prove that if $m > \max\{10^{15}, 2r^3\}$, then the equation $a^x + b^y = c^z$ has only the positive integer solution $(x, y, z) = (2, 2, r)$.

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