

On exponential Diophantine equations concerning Pythagorean triples

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Abstract

Let $\{a, b, c\}$ be a primitive Pythagorean triple such that $a^2 + b^2 = c^2$. In 1956, Jesmanowicz conjectured that the equation $a^x + b^y = c^z$ has a unique solution in positive integers. In this talk, we give some new results on the conjecture. If time permits, we talk about a new conjecture via primitive Pythagorean triples and results on it.