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A Search on Integral Solutions to the Non-Homogeneous Ternary Cubic Equation

$$a x^2 + b y^2 = (a+b) z^3 , a, b > 0$$

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Abstract: *Patterns of non-zero integer solutions to the non-homogeneous ternary cubic equation* $a x^2 + b y^2 = (a+b) z^3 , a, b > 0$. *Some fascinating relations between the solutions are presented*

Keywords: Non-homogeneous cubic, Ternary cubic, Integer solutions