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Alexander Berkovich* (alex@uf1.edu). *On some implications of 1907 Hurwitz formula.*

I start by showing that 1907 Hurwitz formula is a special case of the Siegel formula for ternary quadratic forms. I then employ 1907 Hurwitz formula and a special case of the Jacobi triple product identity to prove certain conjectures of Kaplansky. In particular, I will show that $9x^2 + 16y^2 + 36z^2 + 16yz + 4xz + 8xy$ represents, exclusively, all positive integers not of the form $4^a(8m+7)$, $4^a(8m+3)$, $a=0,1,2$ $4^a(4m+2)$, $a=0,1,2$ $4^a(8m+5)$, $a=0,1$ $M^2, 4M^2$ where a, m, M are non-negative integers and M is generated by one and primes congruent to 1 modulo 4 (Received February 01, 2015)