1052-11-152   **Alexander Berkovich*** (`alexb@ufl.edu`), University of Florida, Math. Department, Gainesville, FL. *Ternary quadratic forms and certain positivity conjectures.*

I show that many of Ramanujan's modular equations of degree 3 can be interpreted in terms of integral ternary quadratic forms. This way I establish that for any $n \in N$

$$
\begin{aligned}
&|\{n = x\frac{(x+1)}{2} + y^2 + z^2 : x, y, z \in Z\}| >= \\
&|\{n = x\frac{(x+1)}{2} + 3y^2 + 3z^2 : x, y, z \in Z\}|
\end{aligned}
\tag{1}
$$

The above is just one among many similar "positive" results of this type. This talk is based on a recent joint work with Will Jaggy. (Received August 25, 2009)

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