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*A recursive formula for sums of squares*,

**Abstract**

If $t$ is a positive integer and $n$ is a non-negative integer, let $r_t(n)$ denote the number of representations of $n$ as a sum of $t$ squares of integers. (Representations that differ only in order of terms are considered distinct.) A vast literature exists that is devoted to this subject. (See [3].)

In [1], Ewell used elementary means to obtain a formula for $r_3(n)$ in terms of $q_0(n)$, the number of self-conjugate partitions of $n$. Let the integer $t \geq 4$. In this note, we extend Ewell’s result, obtaining a formula for $r_t(n)$ in terms of $r_{t-3}(n)$ and $q_0(n)$. 