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Thomas J. Wright* (wright@math.jhu.edu), Department of Mathematics, Johns Hopkins University, 3400 North Charles St., Baltimore, MD 21218. *Convergence of Singular Series for a Pair of Quadratic Forms.*

Examining the system of Diophantine equations

$$\begin{cases} f_1(x) = x_1^2 + \dots x_n^2 = \nu_1, \\ f_2(x) = \lambda_1 x_1^2 + \dots \lambda_n x_n^2 = \nu_2, \end{cases}$$

with $\lambda_i \neq \lambda_j$ and $\nu_i, \lambda_i \in \mathbb{Z}$, we develop what is known as the singular series $S(\nu)$, a quantity which is understood to approximate the number of solutions for this pair of equations as the ν_i 's become larger. We show that this singular series $S(\nu)$ converges if $n \geq 6$. (Received September 10, 2008)