1086-11-736   **Jeremy Rouse***, Department of Mathematics, Wake Forest University, Winston-Salem, NC
27109. *Quadratic forms representing all odd positive integers.*

We discuss an analytic method for bounding the coefficients of cusp forms that appear in the decomposition of theta series of quaternary quadratic forms. This method relies on the theory of Rankin-Selberg L-functions to compute Petersson inner products. Using this method we prove that if D is a fundamental discriminant and Q is a positive-definite quadratic form with discriminant D, then the largest locally represented integer that is not represented by Q is $\ll D^{2+\epsilon}$. This method was one of four employed to give a conditional proof that a positive-definite integer-valued quadratic form representing the odd numbers from 1 to 451 represents all odd numbers. (Received September 11, 2012)

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