1163-11-249 **Jeremy Rouse*** (`rouseja@wfu.edu`). *Integers represented by positive-definite quadratic forms and Petersson inner products.*

Let Q be a positive-definite quaternary quadratic form with integer coefficients. We study the problem of giving bounds on the largest positive integer n that is locally represented by Q but not represented. Assuming that n is relatively prime to $D(Q)$, the determinant of the Gram matrix of Q, we show that n is represented provided that

$$n \gg \max\{N(Q)^{3/2+\epsilon} D(Q)^{5/4+\epsilon}, N(Q)^{2+\epsilon} D(Q)^{1+\epsilon}\}.$$

Here $N(Q)$ is the level of Q. We give three other bounds that hold under successively weaker local conditions on n.

These results are proven by bounding the Petersson norm of the cuspidal part of the theta series, which is accomplished using an explicit formula for the Weil representation due to Scheithauer. (Received August 30, 2020)