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**Ameya Pitale\*** ([ameya@math.ou.edu](mailto:ameya@math.ou.edu)), Department of Mathematics, University of Oklahoma,  
Norman, OK 73019. *Sign Changes for Hecke eigenvalues of Siegel cusp forms of degree 2.*

Let  $\mu(n)$ , for  $n > 0$ , be the Hecke eigenvalues of a cuspidal Siegel eigenform  $F$  of degree 2. If  $F$  is not in the Maaß space then we show that there are infinitely many primes  $p$  such that the sequence  $\mu(p^r)$ ,  $r > 0$  has infinitely many sign changes. To show this, we use Ramanujan type estimates which give an improved classification of irreducible, unitary, spherical representations of the local symplectic group  $\mathrm{GSp}_4(\mathbb{Q}_p)$ . This is joint work with Ralf Schmidt. (Received August 6, 2007)