

1014-11-1581      **Jennifer Beineke\*** ([jbeineke@wnec.edu](mailto:jbeineke@wnec.edu)), Department of Mathematics, Western New England College, 1215 Wilbraham Road, Springfield, MA 01119, and **Daniel Bump** ([bump@math.stanford.edu](mailto:bump@math.stanford.edu)), Department of Mathematics, Stanford University, Stanford, CA 94305-2125. *A summation formula for divisor functions associated to lattices.*

We consider a generalization of the sum of divisors function to lattices, and then will discuss a generalization of the Voronoi-Oppenheim summation formula for these divisor functions, which uses the automorphic theory of  $GL_{2n}$ . We will illustrate how such a formula might be applicable to moments of the Riemann zeta function. (Received September 28, 2005)