1014-11-432   **Benjamin Brubaker** (`brubaker@math.stanford.edu`), Department of Mathematics, Stanford University, Stanford, CA 94305, **Daniel Bump** (`bump@sporadic.stanford.edu`), Department of Mathematics, Stanford University, Stanford, CA 94305, and **Solomon Friedberg*** (`friedber@bc.edu`), Department of Mathematics, Boston College, Chestnut Hill, MA 02467-3806. *Weyl Group Multiple Dirichlet Series: The Stable Case.*

To each reduced root system Φ of rank r, and each sufficiently large integer n, Brubaker, Bump, Chinta, Friedberg and Hoffstein have defined a family of multiple Dirichlet series in r variables, whose coefficients are products of n-th order Gauss sums. These series converge when each variable is sufficiently large, and are conjecturally related to the Whittaker coefficients of metaplectic Eisenstein series. In the work discussed here, we establish the continuation of these series to $\mathbb{C}^r$ and show that they satisfy a group of functional equations that is isomorphic to the Weyl group of Φ. The root system plays a basic role in the combinatorics underlying the proof of the functional equations. (Received September 15, 2005)

1