

SUMMATION FORMULAS AND MOMENTS OF THE RIEMANN ZETA FUNCTION

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ABSTRACT. We will discuss a class of automorphic summation formulas that provide a connection between the $2k$ th moment of the Riemann zeta function and Eisenstein series on $GL(2k)$. For the second moment, the connection is explained by a Voronoi-Oppenheim summation formula. For $k > 1$, divisor functions of lattices will be defined and a Voronoi-type summation formula will be described for lattice divisor functions.