Mean values and subconvexity results for a degree 8 Euler product.

We investigate some consequences of a result of Michel and Ramakrishnan that gives an explicit evaluation of Gross/Zagier type formulae. We introduce an additional parameter in their expression and sum over it to obtain a sum of certain products of L-functions. In particular, we study a weighted average over weight 2, level N holomorphic newforms of a degree 8 Euler product of three central L-values that depend on form f. We give an expression of this average in terms of double shifted Dirichlet series and analyze these series to express the average in terms of a main term plus an error term. We also estimate the growth of an individual term in the sum to get a subconvexity result. (Received July 03, 2019)