1119-11-50   **Yuanqing Cai*** (`yuanqing.cai@bc.edu`), Department of Mathematics, Boston College, 140 Commonwealth Ave, Maloney 534, Chestnut Hill, MA 02467. *Fourier coefficients for Theta representations on covers of general linear groups.*

We introduce and study two types of Fourier coefficients for the theta representations on covers of general linear groups of arbitrary degree. The first are semi-Whittaker coefficients, which generalize coefficients introduced by Bump and Ginzburg for the double cover. The covers for which these coefficients vanish identically (resp. do not vanish for some choice of data) are determined in full. The second are the Fourier coefficients associated with general unipotent orbits. In particular, we determine the unipotent orbit attached, in the sense of Ginzburg, to the theta representations. Finally, we consider the question of uniqueness, and in certain cases we prove the global uniqueness of each model. (Received February 02, 2016)