1070-11-116 **Kathrin Bringmann** and **Amanda Folsom***, Yale University, Mathematics Department, P.O. Box 208283, New Haven, CT 06520-8283. *Kac-Wakimoto characters, asymptotics, and mock modular forms.*

Recently, Kac and Wakimoto established specialized character formulas for irreducible highest weight modules, and established a main exponential term in their asymptotic expansions. Later works of the author and Bringmann-Ono show that these characters may be realized as parts of certain non-holomorphic modular functions. By exploiting the "modularity" of these characters, we improve upon the Kac-Wakimoto asymptotics, obtaining an asymptotic expansion with an arbitrarily large number of terms beyond the main term. This is joint work with Kathrin Bringmann (University of Cologne). (Received February 03, 2011)