

1047-11-251

Karl Mahlburg* (mahlburg@math.mit.edu), 2-173 Department of Mathematics, Massachusetts Institute of Technology, 77 Massachusetts Ave, Cambridge, MA 02139, and **Kathrin Bringmann** and **Rob Rhoades**. *Asymptotics for cranks and ranks of partitions*.

We find the first two asymptotic terms for the moments of the partitions crank and rank functions. We prove that the two moment functions share the same main asymptotic term, and that the second term for the crank is larger than that of the rank. This (essentially) proves a stronger form of a conjecture due to Garvan in which he suggested that the crank moments are always strictly larger than the rank moments. (Received January 29, 2009)