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**Kathrin Bringmann\*** ([bringman@math.wisc.edu](mailto:bringman@math.wisc.edu)), department of Mathematics, van Vleck Hall, Madison, WI 53706. *On Mock Theta functions and a Conjecture of Dragonette and Andrews.*

We solve the classical problem of obtaining formulas for  $N_e(n)$  (resp.  $N_o(n)$ ), the number of partitions of an integer  $n$  with even (resp. odd) rank. Thanks to Rademacher's exact formula for the partition function, this problem is equivalent to that of obtaining a formula for the coefficients of the mock theta function  $f(q)$ , a problem with its own long history dating to Ramanujan's last letter to Hardy. Little was known about this problem until Dragonette in 1952 obtained asymptotic formulas. In 1966, G. E. Andrews refined Dragonette's results, and conjectured an exact formula for the coefficients of  $f(q)$ . By constructing a weak Maass-Poincaré series whose "holomorphic part" is  $q^{-1}f(q^{24})$ , we prove the Andrews-Dragonette conjecture, and as a consequence obtain the desired formulas for  $N_e(n)$  and  $N_o(n)$ . (Received March 02, 2006)