1023-11-1143   **Nayandeep Deka Baruah*** (`nbaruah@uiuc.edu`), Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 West Green Street, Urbana, IL 61801, and **Bruce C. Berndt**.
Partition Identities Arising from Ramanujan's Modular Equations and Theta Functions.

In this paper, we show that certain modular equations and theta function identities of Ramanujan imply elegant partition identities. For example, let S denote the set consisting of two copies of the positive integers and one additional copy of those positive integers that are not multiples of 3. Then, for $N \geq 1$, the number of partitions of $2N$ into even and into odd elemnets of S are equinumerous. (Received September 25, 2006)