1048-17-336   **Robert Lee Wilson*** (`rwilson@math.rutgers.edu`), Rutgers University, Department of
Mathematics, Piscataway, NJ 08854-8019. *Multisum identities related to $A_1^{(1)}$.* Preliminary report.

Let $k, k_0, k_1 \geq 0$ be integers with $k_0 \leq k - 1$ and $k_0 + k_1 = 2k - 1$. Then the principally specialized character of the vacuum space for the standard $A_1^{(1)}$-module with highest weight $\Lambda = k_0 \Lambda_0 + k_1 \Lambda_1$ may be expressed (by a result of Gordon) as as an infinite sum $\sum_{m \geq 0} |A(k, k_0, m)| q^m$ where $A(k, k_0, m)$ is the set of partitions $(a_1, ..., a_s)$ of m satisfying $a_1 \geq a_2 \geq ... \geq a_s, a_i - a_{i+k-1} \geq 2 \quad \forall \, i, 1 \leq i \leq s - k + 1$, and $a_{s-k_0} > 1$. It may also be expressed (by a result of Andrews) as a multisum. We relate these two expressions using the operators $X^{(i)}$ introduced by Meurman and Primc on the standard $A_1^{(1)}$-module V_Λ. (Received February 10, 2009)