1047-11-362 **Jaebum Sohn*** (jsohn@yonsei.ac.kr), 134 Shinchon-dong, Seodaemun-gu, Department of Mathematics, Yonsei University, Seoul, 120-749, South Korea, and **Pyo Lim**. *1 mod k lecture hall partition.*

A Lecture Hall Partition of length n is a sequence $(b_1, b_2, \ldots, b_n)$ of nonnegative integers satisfying $\frac{b_1}{n} \geq \frac{b_2}{n-1} \geq \cdots \geq \frac{b_n}{1} \geq 0$. M. Bousquet-Mélou and K. Eriksson showed that there is an one to one correspondence between the set of all lecture hall partitions of length n and the set of all partitions of N into n odd parts less than $2n$. G. E. Andrews also proved this result by using MacMahon's Ω operator.

In this talk, we compute a generating function of the 1 mod k Lecture Hall Partition of length n satisfying the condition $\frac{b_1}{1+(n-1)k} \geq \frac{b_2}{1+(n-2)k} \geq \cdots \geq \frac{b_n}{1} \geq 0$. We utilize MacMahon's Ω operator to prove our result and then give some partition interpretation. (Received February 02, 2009)