1083-19-43 **Shrawan Kumar*** (shrawan@email.unc.edu), Department of Mathematics, Chapel Hill, NC 27599-3250. *Positivity in T-Equivariant K-theory of flag varieties associated to Kac-Moody groups.* Preliminary report.

Let G be any symmetrizable Kac-Moody group completed along the negative roots and $G^{min} \subset G$ be the 'minimal' Kac-Moody group. Let B be the standard (positive) Borel subgroup, B^- the standard negative Borel subgroup, $H = B \cap B^-$ the standard maximal torus and W the Weyl group. Let $\bar{X} = G/B$ be the 'thick' flag variety (introduced by Kashiwara) which contains the standard KM flag ind-variety $X = G^{min}/B$. Let T be the quotient torus $H/Z(G^{min})$, where $Z(G^{min})$ is the center of G^{min}.

Let $K_T^{top}(X)$ be the T-equivariant topological K-group of X. Let $\{\psi^w\}_{w\in W}$ be the 'basis' of $K_T^{top}(X)$ given by Kostant-Kumar. Express the product in $K_T^{top}(X)$:

$$\psi^u \cdot \psi^v = \sum_w p_{u,v}^w \psi^w, \quad \text{for } p_{u,v}^w \in R(T).$$

Then, the following result is our main theorem. This generalizes one of the main results of Anderson-Griffeth-Miller (which was conjectured earlier by Graham-Kumar) from the finite to any symmetrizable Kac-Moody case. THEOREM. For any $u, v, w \in W$,

$$(-1)^{\ell(u)+\ell(v)+\ell(w)}\, p_{u,v}^w \in \mathbb{Z}_+[(e^{-\alpha_1}-1), \ldots, (e^{-\alpha_r}-1)],$$

where $\{\alpha_1, \ldots, \alpha_r\}$ are the simple roots. (Received August 06, 2012)