1046-55-1248 **Rekha Santhanam*** (santhana@math.jhu.edu), 404 Kreiger Hall, 3400 N. Charles Street, Baltimore, MD 21218. *Defining the units of equivariant ring spectra.*

Recent work of Freed, Hopkins and Teleman relates twisted equivariant K-theory of a compact lie group with the Verlinde algebra. This has generated considerable interest in twisted (equivariant) cohomology theories.

The twists of a cohomology ring theory are parametrized by the classifying space of its multiplicative units. Similarly, we expect the twists of an equivariant cohomology ring theory to be parametrized by the classifying space of its multiplicative units. We develop the framework for defining the units of equivariant cohomology ring theories when the group acting is finite.

The category of E_∞-spaces and the category of Γ-spaces both model connective spectra. May and Thomason gave a comparison of these models and showed that they are equivalent. We show that the category of equivariant Γ-spaces and the category of equivariant E_∞-spaces are Quillen equivalent with appropriate model category structures. We then construct the units of equivariant E_∞-ring spectra in terms of equivariant Γ-spaces. (Received September 15, 2008)