

1108-17-422

Gregory G. Simon* (ggsimon@umich.edu). *Automorphism-invariant integral forms of the Norton-Sakuma algebras.*

Motivated by the existence of monster-invariant integral forms in the moonshine module, I will present a study of automorphism-invariant integral forms of the Norton-Sakuma algebras, which are certain distinguished small subalgebras of the monster Griess algebra and of other generalized Griess algebras. The major tools used in this talk will be ‘integral form detector functions’, the fusion rules of the algebras, and elementary number theory. In particular, I will give an overview of how the following theorem can be proven: each Norton-Sakuma algebra has a unique maximal automorphism-invariant integral form. This result gives a distinguished lattice in each Norton-Sakuma algebra, and it provides a collection of bases for each algebra for which the structure coefficients are particularly simple. (Received January 19, 2015)