1127-11-388 **Trevor Hyde*** (tghyde@umich.edu), 609 Lawrence St Apt 4, Ann Arbor, MI 48104. *Polynomial Splitting Measures and the Cohomology of the Pure Braid Group.*

Let $\mathbb{F}_q$ be a finite field. If $f(x)$ is a monic, squarefree, degree n polynomial over $\mathbb{F}_q$, then the degrees of its irreducible factors partition n; we call this partition the *factorization type* of $f(x)$. For any given partition λ of n one may ask, for a random monic, squarefree, degree n polynomial over $\mathbb{F}_q$, what is the probability that $f(x)$ has factorization type λ? The answer for each λ is a Laurent polynomial of q called the q-splitting measure. We show that the coefficients of the q-splitting measure are given by characters of the symmetric group associated to certain S_n-submodules of the cohomology of the pure braid group.

This talk is based on joint work with Jeffrey C. Lagarias. (Received February 07, 2017)