

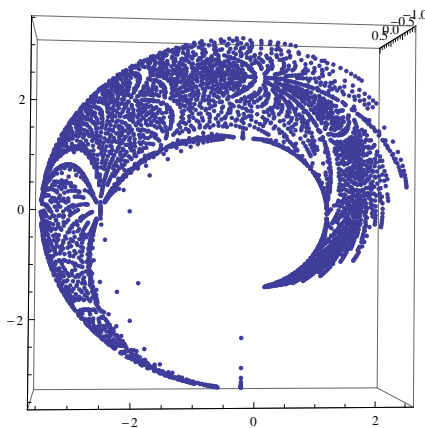
# Secret Student Seminar

Experimental Algebra & Geometry Lab

## Arithmetic of Free Group Character Varieties

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### Abstract

The set  $\text{Hom}(F_r, \text{SL}_n(\mathbb{Z}_p))$  of representations of a free group of rank  $r$  to  $\text{SL}(n, \mathbb{Z}_p)$ , with  $p$  prime, corresponds to pointed bundles over a surface with boundary. Previously, we showed how to count the total number of representations in  $\text{Hom}(F_r, \text{SL}(n, \mathbb{Z}_p))$  which resulted in a polynomial in terms of  $p$  and  $n$ . We then stratified the set  $\text{Hom}(F_r, \text{SL}(2, \mathbb{Z}_p))$  into conjugate invariant strata and summarized the methods used to count the number of representations in each strata. This talk will be the first of a series of talks which will discuss each strata, starting with the set of trivial representations and those which reduce over  $\text{SL}(n, \mathbb{Z}_p)$ . This work is in collaboration with Dr. Sean Lawton.

Date: Friday, April 13, 2012

Time: 2:00pm–3:00pm

Place: MAGC 1.302

**Pizza and soda will be served at the presentation.**