Secret Student Seminar

Experimental Algebra & Geometry Lab

Arithmetic of Free Group Character Varieties

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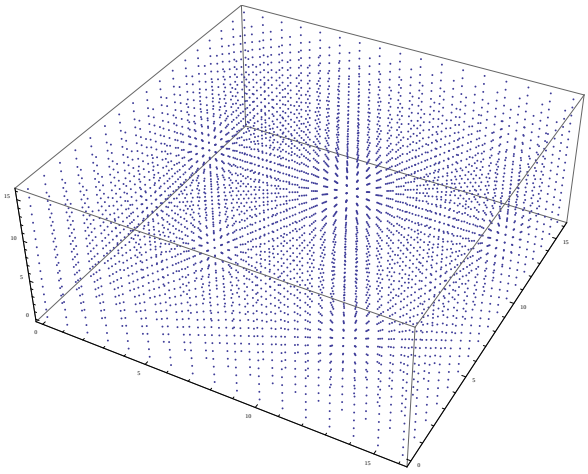

Abstract

A $\mathbb{K}$-variety $X_{\mathbb{K}}$ is a set whose points are the solutions to a set of polynomial equations over a field $\mathbb{K}$. When $\mathbb{K} = \mathbb{Z}_p$, p prime, the counting polynomial $\mathcal{C}_X(p)$ is defined to be the cardinality of the set $X_{\mathbb{Z}_p}$. If $\lim_{p\to 1} \mathcal{C}_X(p) = \chi(X_{\mathbb{C}})$, where $\chi(X_{\mathbb{C}})$ denotes the Euler characteristic of the variety, then $X_{\mathbb{K}}$ is said to be of type polynomial count. In 2008 Housel and Rodriguez-villegas showed that $\mathrm{Hom}(\pi_1(\Sigma)^*, \mathrm{SL}(n,\mathbb{C}))/\!\!/\mathrm{SL}(n,\mathbb{C})$ is of type *polynomial count* where Σ is a closed surface. We will investigate whether $\mathrm{Hom}(\pi_1(\Sigma), \mathrm{SL}(2,\mathbb{C}))/\!\!/\mathrm{SL}(2,\mathbb{C})$, where Σ is an open surface, is of type polynomial count.

Date: Friday, November 30, 2012
Time: 2:00pm - 3:00pm
Place: MAGC 1.302

Pizza and soda will be served at the presentation.

For further information or for special accommodations, please contact Dr. Sean Lawton via email at `lawtonsd@utpa.edu`.