

Queen's Algebraic Geometry — Seminar —

TOPOLOGY, GEOMETRY, AND DYNAMICS OF $\text{Out}(F)$

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Abstract

The outer automorphism group $\text{Out}(F)$ of a free group F of finite rank shares many properties with $\text{SL}(n, \mathbb{Z})$ and the mapping class group MCG of a surface. However the techniques for studying these groups are generally quite different. We will describe Culler-Vogtmann's Outer Space as an analogue for $\text{Out}(F)$ of the symmetric space $\text{SO}(n) \backslash \text{SL}(n, \mathbb{R})$ of $\text{SL}(n, \mathbb{Z})$, and the Teichmueller Space of a surface. The so-called fully irreducible elements of $\text{Out}(F)$ exhibit north-south dynamics on Outer Space. We will explain a method for constructing these automorphisms and suggest why this construction should be useful. This is joint work with Matt Clay (University of Oklahoma).

Monday, March 23, 2009
4:30pm – 5:30pm
319 Jeffery Hall