Topology, Algebraic Geometry, & Dynamics Seminar

Some results on affine Deligne-Lusztig varieties

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In Linear Algebra 101, we encounter two important features of the group of invertible matrices: Gauss elimination method, or the LU decomposition of almost all matrices, which is an important special case of the Bruhat decomposition; the Jordan normal form, which gives a classification of the conjugacy classes of invertible matrices.

The study of the interaction between the Bruhat decomposition and the conjugation action is an important and very active area. In this talk, we focus on the affine Deligne-Lusztig variety, which describes the interaction between the Bruhat decomposition and the Frobenius-twisted conjugation action of loop groups. The affine Deligne-Lusztig variety was introduced by Rapoport around 20 years ago and it has found many applications in arithmetic geometry and number theory.

In this talk, we will discuss some recent progress on the study of affine Deligne-Lusztig varieties, and some applications to Shimura varieties.

Date: **Friday, February 16, 2018**
Time: **2:30-3:20 pm**
Place: **4106 Exploratory Hall**

For special accommodations, please contact Sean Lawton via email at `slawton3@gmu.edu`.