TOPOLOGY AND GEOMETRY SEMINAR

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Classifying involutions of Azumaya algebras



Date: Wednesday October 18, 2023 Time: 2:00 PM Room: CL 305

Abstract: This is joint work with Uriya First. Azumaya algebras are objects that are locally isomorphic to matrix algebras—over a topological space X, they are bundles of matrix algebras. If the base space X is endowed with a self-map of order 2 (which may be trivial) $t : X \to X$, then a *t*-involution of an Azumaya algebra A over X is a map $s : A \to A$ of order 2 that preserves addition, reverses multiplication, and is compatible with t. These involutions are analogues of transposition or hermitian conjugation of matrix algebras. I will explain a coarse classification of these involutions into types, depending on the base involution t, and produce some exotic examples.

