

University of Notre Dame Department of Mathematics

TOPOLOGY SEMINAR

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Will give a lecture entitled:

Involutions on Tori and Topological Rigidity

On

Thursday, March 10, 2011

At

12:45 PM

In

258 Hurley Hall

Abstract

How many topological involutions on the n -dimensional torus have an isolated fixed point?

We prove that there is only one involution on the n -torus T^n , up to conjugacy, for which the fixed set contains an isolated point. But here, n must be of the form $4k$ or $4k + 1$, or n must be less than 6. In the other dimensions, we classify all such involutions, using surgery theory and the calculation of the groups $\text{UNil}_{n+1}(\mathbb{Z}; \mathbb{Z}, \mathbb{Z})$. We also discuss a Topological Rigidity Conjecture, and we show that the above result is a consequence of it.

This is joint work with Jim Davis and Qayum Khan.