

TOPOLOGY SEMINAR

Guest Speaker: Renaud Detcherry

University of Bourgogne

Date: Tuesday, February 21, 2023

Time: 2:30 PM

Location: 258 Hurley Hall

Zoom Link: NA



Lecture Title:

On the kernel of Witten-Reshetikhin-Turaev quantum representations

Abstract

Witten-Reshetikhin-Turaev $SO(3)$ quantum representations are a family of representations of mapping class groups of surfaces. The family is asymptotically faithful, but each representation has kernel: indeed, r -th powers of Dehn twists are in the kernel of the level r quantum representation. An open question is whether the kernel is generated by r -th powers of Dehn twists; we will present partial results on this question, by relating the so-called "h-adic expansion" of quantum representations to Johnson homomorphisms.