Algebra, Topology and the Grothendieck-Teichmüller group



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Tangles in a Pole Dance Studio: A Reading of Massuyeau, Alekseev, and Naef

Friday 2 September 2022 11:10 (50 minutes)

I will report on joint work with Zsuzsanna Dancso, Tamara Hogan, Jessica Liu, and Nancy Scherich. Little of what we do is original, and much of it is simply a reading of Massuyeau's arXiv:1511.03974 and Alekseev and Naef's arXiv:1708.03119.

We study the pole-strand and strand-strand double filtration on the space of tangles in a pole dance studio (a punctured disk cross an interval), the corresponding homomorphic expansions, and a strand-only HOMFLY-PT relation. When the strands are transparent or nearly transparent to each other we recover and perhaps simplify substantial parts of the work of the aforementioned authors on expansions for the Goldman-Turaev Lie bi-algebra.

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