Pseudo-Anosov Homeomorphisms

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The mapping class group is the group of orientation preserving homeomorphisms of a surface up to isotopy. In particular, the mapping class group encodes information about the symmetries of a surface. The Nielsen-Thurston classification states that elements of the mapping class group are of one of three types: periodic, reducible, and pseudo-Anosov. In this talk, we will focus our attention on the pseudo-Anosov elements, which are the elements of the mapping class group which mix the underlying surface in a complicated way. In this talk, we will discuss both classical and new results related to pseudo-Anosov mapping classes, as well as the connections to other areas of mathematics.

References

[1] A. Bar-Natan and Y. Verberne. *The grand arc graph.* Mathematische Zeitschrift 305:2 (2024).

[2] Y. Verberne. *A contruction of pseudo-Anosov homeomorphisms using positive twists.* Algebraic & Geometric Topology 23:4 (2023) 1601–1639.