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Miriam Kuzbary* (mkuzbary3@gateh.edu) and **Allison H Moore** (moorea14@vcu.edu).

Topological Symmetry Groups of Algebraically Trivial Theta Graphs. Preliminary report.

The orientation preserving topological symmetry group of a graph embedded in the three-sphere is the subgroup of the automorphism group of the underlying abstract graph that encodes symmetries of the spatial graph up to isotopy. In this ongoing project with Allison H. Moore, we consider the problem of studying symmetries of spatial theta graphs that are algebraically trivial in the sense that their constituent knots and links are comprised of unknots of linking number zero. We present a method for analyzing their topological symmetry groups that generalizes work of Cochran-Ruberman, and is based on Cochran's higher order linking numbers via formal Massey products. Along the way, we show that certain higher order linking numbers of three-component links are link concordance invariants. (Received September 20, 2021)