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Title: Equivariant grid homology for strongly invertible knots

Abstract: A strongly invertible knot is a pair (K, ρ) , where $K \subset S^3$ is a knot and $\rho \in \text{Diffeo}^+(S^3)$ is an involution such that $\rho(K) = K$ and ρ reverses the orientation on K . We show that, given a strongly invertible knot, it is always possible to present it through a symmetric grid (G) . Any two such symmetric grids for (K, ρ) are related by certain symmetric grid moves. In this talk, we induce an involution on the grid complex $GC^-(G)$, and we use this additional structure to define an equivariant version of grid homology.