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Stability phenomena for sequences of representations of the classical Weyl groups and topological applications

Over the past three years, Church, Ellenberg, Farb, and Nagpal developed the theory of FI-modules for studying sequences of representations of the symmetric groups. I will outline their work, and explain how it adapts to sequences of representations of any family of classical Weyl groups. We can use this theory to describe the structure of a variety of sequences coming from algebra, geometry, and topology, including the cohomology rings of several families of groups related to the pure braid groups.