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Finitely generated sequences of arrangements and representation stability

Many linear subspace arrangements occur naturally in sequences that can be described succinctly, e.g. all braid arrangements are given by equations of a single form: " $z_i = z_j$ ". This situation can be formalized by the framework of a finitely generated \mathcal{C} -diagram of arrangements, where \mathcal{C} is some indexing category. A fundamental result in this context is that, under certain structural assumptions on \mathcal{C} , the intersection posets of a finitely generated sequence of arrangements exhibits a form of combinatorial stability, which in turn implies that the arrangements' complements exhibit cohomological representation stability. My talk will present the terminology mentioned above and applications of the observed representation stability.