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Central limit theorems for generalized descents and generalized inversions in finite root systems

Thursday, 4 August 2022 09:30 (20 minutes)

We start introducing generalized descents and generalized inversions in permutations as special cases of antichains and order ideals in the root poset for permutations. We provide the variance for generalized inversions and use a dependency graph method to conclude a central limit theorem for those and for antichains. We then generalize this result to antichains in root posets for finite Weyl groups and to generalized inversions for irreducible Weyl groups.

This is joint work with Christian Stump, generalising the study of d-descents by Pike and Bona.

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