

Discrete Mathematics & Combinatorics

Positroids and positively oriented matroids

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Positroids are combinatorial objects introduced by Postnikov to index the different strata in a certain well-behaved decomposition of the positive Grassmannian. We study some of the rich combinatorial properties of positroids, and explore the connection to non-crossing partitions. As an application, we prove da Silva's 1987 conjecture that any positively oriented matroid is representable over the field of rational numbers.

This is joint work with Federico Ardila and Lauren Williams.