

THEMATIC SESSION: Discrete Mathematics

Unexpected diagonals

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Cellular approximations of diagonals of polytopes are important tools in homotopy theory. Geometrically, they can be constructed via the theory of fiber polytopes, and their projections produce interesting polyhedral subdivisions. This talk will present some unexpected enumerative properties of the diagonals of the associahedron and the permutahedron. It is based on joint work with Alin Bostan and Frédéric Chyzak (Refined product formulas for Tamari intervals, arXiv:2303.10986) and with Bérénice Delcroix-Oger, Guillaume Laplante-Anfossi and Kurt Stoeckl (Cellular diagonals of permutahedra, arXiv:2308.12119).