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Tamás Kálmán* (kalman@math.titech.ac.jp). *Hypergraph polynomials and the Bernardi process.*

The product of two simplices can be triangulated by non-crossing trees. With Lilla Tóthmérés we found a generalization of this fact: the root polytope of an arbitrary bipartite graph has a dissection by a simple class of spanning trees derived from a given ribbon structure. Moreover, the dissection comes with a natural shelling order. We proved that the resulting h -vector is equivalent to

- (a) the Ehrhart polynomial of the root polytope and thus, by earlier joint work with Alex Postnikov, to the common interior polynomial of the two hypergraphs induced by the bipartite graph
- (b) a new variant of the interior polynomial, defined using the ribbon structure along the lines of Bernardi's approach to the Tutte polynomial.

Hence we obtain a Bernardi-type definition of the interior polynomial. (Received January 22, 2019)