

1112-05-521

Yannic Vargas* (yannicmath@gmail.com). *Permutation patterns and Hopf algebra of permutations.*

We investigate several instances of permutations patterns, an analogous notion of the classical pattern of words to permutations, in some combinatorial Hopf algebras of permutations. First, using analogues of the classical shuffle and infiltration products for words, we define two new Hopf algebras of permutations related to the notion of permutation pattern. Furthermore, we present a new formula for the product of the monomial basis, introduced by Aguiar and Sottile, of the Hopf algebra of permutations studied by Malvenuto and Reutenauer, in terms of special types of permutation patterns, using the notion of planar posets introduced by Foissy. (Received August 10, 2015)