

Pierre Lairez: Diagonals of rational functions.

Given a multivariate rational power series, one can extract its univariate diagonal series. This is a very useful operation when manipulating generating series. The diagonals have very interesting properties, both from a theoretical and computational point of view. On the one hand they are exactly the generating series of binomial sums, and they have surprising algebraic properties (e.g. algebraicity modulo p). On the other hand, their computation is a special case of the computation of de Rham cohomology of projective hypersurfaces.