INSALATE DI MATEMATICA

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Permutations of polynomial roots and flat coordinates of Frobenius manifolds

Abstract:

A complex polynomial of given degree is completely specified by either its roots or its coefficients. Relations between the two are famously given by Viéta identities. Within the theory of Frobenius manifolds, these serve as a transition function between two distinguished coordinate systems. We discuss how this can be generalised to rational functions. In particular, it turns out that the Frobenius manifold structure on the space of some rational functions can be described from a suitable polynomial one, the additional information being encoded into polynomial invariants under the diagonal action of the symmetric group. This is based on a joint work with Ian Strachan.

Keywords: Frobenius manifolds · Landau-Ginzburg superpotentials · symmetric groups

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"Obvious" is the most dangerous word in mathematics.
(Eric Temple Bell)