

Singularities in Geometry and Topology in honour of Sabir Gusein-Zade with occasion of his 60th birthday.
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Strange duality and monodromy of invertible polynomials

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SUMMARY

The Berglund-Hübsch transpose defines a mirror symmetry between invertible weighted homogeneous polynomials. For invertible polynomials in three variables, we define Dolgachev and Gabrielov numbers and show that we get a duality between these polynomials generalizing Arnold's strange duality between the 14 exceptional unimodal singularities (joint work with A.Takahashi). One of the features of this duality is that, for some invertible polynomials, the Saito dual of the reduced monodromy zeta function coincides with a formal "root" of the reduced monodromy zeta function of the transposed polynomial. We give a geometric interpretation of "roots" of the monodromy zeta function and generalize the above relation to all invertible polynomials in three variables and to some polynomials in an arbitrary number of variables in a form including "roots" of the monodromy zeta functions both of the polynomial and its transpose (joint work with S.M.Gusein-Zade).

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