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de Jong, T. [de Jong, Theo] (D-KSRL); **van Straten, D.** (D-KSRL)
Deformations of the normalization of hypersurfaces.
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This paper is one in a series of three, in which the authors develop a new and powerful method to study deformations of singularities by means of generic projection. Projection of a normal surface $\widetilde{X}$ into 3-space gives a hypersurface X with double lines (transverse A_1 singularities), and at special points worse singularities. One recovers the original singularity by normalising. In another paper [Abh. Math. Sem. Univ. Hamburg **60** (1990), 177–208; MR1087127 (92a:14004)], the authors defined and studied admissible deformations $\mathrm{Def}(\Sigma, X)$, which do not change the generic transverse singularities on Σ. In this paper they prove that $\mathrm{Def}(\widetilde{X})$, the deformations of $\widetilde{X}$, and $\mathrm{Def}(\Sigma, X)$ are naturally equivalent in quite a general setting, and that the forgetful transformation $\mathrm{Def}(\widetilde{X}) \to \mathrm{Def}(X)$ is smooth. This works if $\widetilde{X} \to X$ is finite, generically injective, with $\widetilde{X}$ Cohen-Macaulay of dimension n, and X a hypersurface and Σ (defined by the conductor ideal) reduced. In another paper [Ann. of Math (2) **134** (1991), no. 3, 653–678], the authors use these results to find the base space for rational quadruple points.

The remainder of the present paper contains an interpretation of the invariant α of J. M. Wahl [Topology **20** (1981), no. 3, 219–246; MR0608599 (83h:14029)] in terms of invariants of the projection; these are related to the number of triple points in a generic perturbation on a so-called disentanglement component. The paper concludes with some interesting examples.

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