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Infinitesimale Deformationen von Diedersingularitäten. (German. English summary)

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Let D be a finite subgroup of $GL(2, \mathbf{C})$ whose image in $PSL(2, \mathbf{C})$ is a dihedral group, and assume D contains no reflections. D acts on $\mathbf{C}[u, v]$ with ring of invariants R . The variety $X = \text{Spec } R$ has a (normal) rational singularity, for which explicit equations can be given (see the authors' paper "Diedersingularitäten", Abh. Math. Sem. Univ. Hamburg, to appear). Denote by T^1 the vector space of isomorphism classes of deformations of X over $\mathbf{C}[\varepsilon]/(\varepsilon^2 = 0)$. The reviewer in his symposium paper [see #5555 below] showed how to determine T^1 , at least in principle, in terms of invariant derivations on $\mathbf{C}[u, v]$, and carried out the computation for the cyclic quotient singularities. The authors [op. cit.] found an explicit set of generators for T^1 in the dihedral case, by the same method. It remained to compute the dimension of T^1 . That is what is done here. It is of course just a question of solving a system of linear equations, but the computation, using continued fraction expansions, is extremely elaborate.

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