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Title:

Some stringy invariants of ADE-Singularities

Abstract:

The theory of motivic integration was invented about 1995 by KONTSEVICH as a tool to study Hodge numbers of algebraic varieties. Meanwhile, a whole theory on the subject has developed.

Using motivic integration, BATYREV succeeded to introduce new invariants of (at most) log-terminal singularities: He showed independence of the string-theoretic E -function $E_{\text{str}}(X; u, v)$ (which encodes a series of invariants, the *string-theoretic Hodge numbers*) on the choice of a resolution X for a given singularity. E_{str} gives rise to the *string-theoretic Euler numbers* $e_{\text{str}}(X) = \lim_{u, v \rightarrow 1} E_{\text{str}}(X; u, v)$. Explicit results for given singularities were obtained by DAIS in the case of simple A-singularities, by DAIS, ROCZEN for the 3-dimensional ADE-singularities and later completed by SCHEPERS for simple singularities in arbitrary dimensions ≥ 3 . Those formulas can be applied to compute stringy Euler numbers of several compact complex 3-folds with ADE-Singularities.

Mathematics Subject Classification (MSC 2000):

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