Graf, Patrick
The violation of the Lipman-Zariski conjecture in positive characteristic. (English)
Zbl 1483.13042

Summary: We study the failure of the Lipman-Zariski conjecture in positive characteristic. For rational double points, the conjecture holds true except for a short finite list of exceptions. For log canonical surface singularities, the conjecture continues to hold with the same list of exceptions under an additional tameness hypothesis. In particular, among rational double points in characteristic \( p \geq 7 \) Lipman’s counterexample is the only one, and the conjecture holds for all tame \( F \)-pure normal surface singularities.

MSC:
13N15 Derivations and commutative rings
14J17 Singularities of surfaces or higher-dimensional varieties
14G17 Positive characteristic ground fields in algebraic geometry

Keywords:
Lipman-Zariski conjecture; positive characteristic; rational double points; log canonical surface singularities

Full Text: DOI arXiv

References:
[1] Artin, M., Coverings of the rational double points in characteristic \( p \), (Complex Analysis and Algebraic Geometry (1977), Iwanami Shoten: Iwanami Shoten Tokyo), 11-22

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original
paper as accurately as possible without claiming the completeness or perfect precision of the matching.