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Complex powers of irreducible algebraic curves. (English) Zbl 0605.14029
Geometry today, Int. Conf., Rome 1984, Prog. Math. 60, 207-230 (1985).

[For the entire collection see [Zbl 0563.00006](#).]

The purpose of this paper is the study of the poles of the so called complex power of a K -analytic function f defining an algebraic curve C in a neighbourhood of 0 . Here K is a local field of characteristic 0 . The author determines all the poles and gives explicit formulas for the residues thus extending results of *L. Strauss* [Trans. Am. Math. Soc. 278, 481-493 (1983; [Zbl 0524.14024](#))] and himself [Complex Anal. Algebr. Geom., Collect. Pap. dedic. K. Kodaira, 357-368 (1977; [Zbl 0355.14012](#))].

A main technical ingredient is a precise knowledge of the desingularisation \tilde{C} of C and the intersection behaviour of the exceptional curves on \tilde{C} .

Reviewer: [F.Herrlich](#)

MSC:

- [14H25](#) Arithmetic ground fields for curves
- [14E15](#) Global theory and resolution of singularities (algebraic-geometric aspects)
- [14H20](#) Singularities of curves, local rings
- [11S80](#) Other analytic theory (analogues of beta and gamma functions, p -adic integration, etc.)
- [14G20](#) Local ground fields in algebraic geometry

Cited in **6** Documents

Keywords:

Schwartz-Bruhat space; complex power of a K -analytic function; desingularisation; exceptional curves