

Periods of integrals in the Milnor fiber

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In this session we will introduce the periods of integrals in the Milnor fiber of an isolated singularity $f : (\mathbb{C}^n, \mathbf{0}) \rightarrow (\mathbb{C}, 0)$. These periods of integrals have a series expansion that encode many invariants of the singularity, for instance, the structure of the monodromy endomorphism or the Bernstein-Sato polynomial of f . We will focus on how the series expansion of the periods can be determined from the resolution of singularities of f . The main reference of this session will be the work of Varchenko [1].

References

- [1] A. Varchenko, *Asymptotic Hodge structure in the vanishing cohomology*, Math. USSR-Izv. **18** (1982), no. 3, 469–512.