

1100-16-107

**Travis Schedler\*** ([schedler@math.utexas.edu](mailto:schedler@math.utexas.edu)) and **Pavel Etingof**. *Invariants of Hamiltonian flow on locally complete intersections.*

We consider the Hamiltonian flow on complex complete intersection surfaces with isolated singularities, equipped with the Jacobian Poisson structure, and generalize to higher dimensional complete intersections.

Our main result computes the coinvariants of functions under the Hamiltonian flow. In the surface case this is the zeroth Poisson homology, and our result generalizes those of Greuel, Alev and Lambre, and the authors in the quasihomogeneous and formal cases. Its dimension is the sum of the dimension of the top cohomology and the sum of the Milnor numbers of the singularities. In other words, this equals the dimension of the top cohomology of a smoothing of the variety.

More generally, we compute the derived coinvariants, which replaces the top cohomology by all of the cohomology. Still more generally we compute the D-module which represents all invariants under Hamiltonian flow, which is a non-trivial extension (on both sides) of the intersection cohomology D-module, which is maximal on the bottom but not on the top. For cones over smooth curves of genus  $g$ , the extension on the top is the holomorphic half of the maximal extension. (Received February 03, 2014)