Computing Milnor classes using Lê cycles

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Abstract

The main goal of this talk is to present a link between the theory of Chern classes for singular varieties and the geometry of the varieties in question. Namely, we show that if Z is a hypersurface in a compact complex manifold, defined by the zero-scheme of a nonzero holomorphic section of a very ample line bundle, then its Milnor classes, regarded as elements in the Chow group of Z, are determined by the global Lê cycles of Z. Morally this implies, among other things, that the Milnor classes determine the topology of the local Milnor fibres at each point of Z, and the geometry of the local Milnor fibres determines the corresponding Milnor classes.