

Self-intersection number for weighted blow-ups

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SUMMARY

This is a preliminary joint work with E. Artal Bartolo and J. Martín-Morales.

The aim of this talk is to provide several tools to calculate and study a special kind of resolutions allowing the ambient space to contain abelian quotient singularities. These resolutions are called *embedded \mathbb{Q} -resolutions*.

To do this, we follow an intersection theory on normal compact varieties, partially developed by Mumford [1], and study weighted blow-ups with smooth center. Special attention is paid to the case of dimension 2 and 3 and blow-ups at points.

One of the main objectives of this work is to give explicit formulas for the self-intersection of weighted blow-ups at points.

Keywords: \mathbb{Q} -resolution, weighted blow-up, intersection theory, quotient singularity.

AMS Classification: 32S25, 32S45.

Referencias

- [1] MUMFORD, DAVID. The topology of normal singularities of an algebraic surface and a criterion for simplicity. *Publications Mathématiques de l'IHÉS* **9**, 5-22, 1961.

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