

SEMINARIO

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An algebraic formula for the index of a 1-form on a real quotient singularity

Abstract: The well-known Eisenbud-Levine-Khimshiashvili formula describes the local degree of an analytic map $(\mathbb{R}^n, 0) \rightarrow (\mathbb{R}^n, 0)$ (or the index of a singular point of a vector field on \mathbb{R}^n , or the index of a singular point of a 1-form on \mathbb{R}^n) as the signature of a quadratic form on the local algebra of the map. There is a generalization of the notion of the index of a 1-form on an arbitrary singular (semi-analytic) variety: the so-called radial index. A generalization of the Eisenbud-Levine-Khimshiashvili formula to simplest singular varieties: hypersurfaces or complete intersections does not exist. However, it appeared that a signature formula can be given for the index of a 1-form on the quotient of the affine space \mathbb{R}^n by a finite abelian group (more precisely, on its algebraic closure). The talk is based on a joint work with W. Ebeling.

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