

SEMINARIO

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Limit spectral distribution for non-degenerate hypersurface singularities

Abstract: The spectrum of an isolated hypersurface singularity is an important discrete invariant formed by μ rational numbers, where μ is the Milnor number of the hypersurface singularity. Despite knowing the interval where these rational numbers live, knowing their distribution throughout that interval is a challenge. In 1981, K. Saito asked if the asymptotic distribution of the spectral numbers of an isolated hypersurface singularity "tends" to the asymptotic distribution of the spectral values of an isolated quasihomogeneous singularity.

In the first part of this talk, I will recall Saito's approach to the distribution of the spectral numbers and its relation with other conjectures in singularity theory, such as Durfee conjecture. In the second part, we will move to the irreducible plane curve case in order to compare the limit distribution with the real distribution of spectral values; as a consequence, we find that the log canonical threshold is strictly bounded below by the doubled inverse of the Milnor number. Finally, we will move to Newton non-degenerate singularities and we will show that in this case we can establish Saito's limit distribution in a natural way.

This is a joint work with M. Schulze.

Seminario IMUVA. Edificio LUCIA.

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