
HENRI GUENANCIA, Stony Brook University
Multiplier ideal of toric plurisubharmonic functions

Given a plurisubharmonic function φ on the unit polydisk $\mathbb{D}^n \subset \mathbb{C}^n$, a fundamental object attached to φ is the so-called multiplier ideal

$$\mathcal{I}(\varphi) := \{f \in \mathcal{O}(\mathbb{D}^n); \int_{\mathbb{D}^n} |f|^2 e^{-\varphi} d\lambda < +\infty\}$$

The goal of the talk is to describe $\mathcal{I}(\varphi)$ in the case where φ is invariant under the natural action of the torus $(\mathbb{S}^1)^n$; this will require to introduce a Newton convex body attached to any torus invariant psh function generalizing the well-known "algebraic case" when $\varphi = \log \sum_I |z_I|^2$ i.e. when φ is the logarithm of the sum of square of (the modulus of) monomials .