

On the exceptional set of crepant resolutions of abelian singularities

Thursday, 9 October 2025 17:00 (1 hour)

Let G be a finite abelian subgroup of $\mathrm{SL}(n, \mathbb{C})$, and suppose there exists a toric crepant resolution $\phi : X \longrightarrow \mathbb{C}^n/G$ of the quotient variety $\mathbb{C}^n/G$. Let $\mathrm{Exc}(\phi) = E_1 \cup \cdots \cup E_s$ be the decomposition of the exceptional set of ϕ into irreducible components. In this seminar, I will show that for every i there exists an open subset U_i of X such that $E_i \subset U_i$, and U_i is isomorphic to the total space of the canonical bundle ω_{E_i} of E_i . Furthermore, $X = U_1 \cup \cdots \cup U_s$. This contributes to the collection of results aimed at solving a classical problem, i.e., to determine which submanifolds of a complex manifold have a neighborhood isomorphic to a neighborhood of the zero section of their normal bundle.

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