ODTU-Bilkent Algebraic Geometry

Boundaries of the dual Newton polyhedron may describe the singularity

By

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Abstract: We are dealing with a hypersurface X⊂C3 having non-isolated singularities.We construct an embedded toric resolution of X using some specific vectors in its dual Newton polyhedron. To do this, we first define the profile of a full dimensional cone and we establish a relation between the jet vectors and the integer points in the profile.
This is a part of the joint work with C. Plénal and M. Tosun.
References
[1] A. Altintaş Sharland, C. O. Oğuz, M. Tosun and Z.aferiakopoulos, An algorithm to find nonisolated forms of rational singularities, In preparation.
[2] C. Bouvier and G. Gonzalez-Sprinberg, Systéme générateur minimal, diviseurs essentiels et G-désingularisations de variétés torique, Tohoku Math. J., 47, 125-149,
1995.
[3] B. Karadeniz Şen, C. Plénat and M. Tosun, Minimality of a toric embedded resolution of singularities after Bouvier-Gonzalez-Sprinberg, Kodai Math J., accepted, 2024.

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