

Toric Nash blowups

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Hironaka's celebrated resolution of singularities in char 0 proceed by blowing up carefully chosen subvarieties. There is an alternative canonical process (requiring no choices) called the Nash blowup and a fundamental question is whether iterated Nash blowups resolve singularities. We show this is not the case in dimensions greater than 3, and in every characteristic, by constructing counterexamples using toric varieties. This is joint work with Daniel Duarte, Maximiliano Leyton, and Alvaro Liendo.

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