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Negative curves in the blowups of toric varieties

This talk is about the Cox rings of toric varieties blown up at a point in the torus. The simplest such varieties are the blowups of weighted projective planes $P(a,b,c)$. Determining for which a,b,c does the variety have a finitely generated Cox ring is a main open problem in the field.

The first step in studying the Cox ring of the blowup of $P(a,b,c)$ is finding a negative curve in it, that means, an irreducible curve of negative self-intersection, different from the exceptional curve.

I will talk about the problem of finding such a negative curve, give examples of an interesting family of curves, and discuss finite generation of Cox rings.