Mathematics, Statistics, and Computer Science **@ UIC**

Geometry, Topology and Dynamics Seminar

Metric Contraction of the Cone Divisor by the Conical Kahler-Ricci Flow

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Abstract: The conical Kahler-Ricci flow is a parabolic flow of Kahler metrics with cone singularities along a codimension one complex submanifold which deforms the smooth part of the metric by the Ricci curvature and keeps the conic boundary conditions fixed. On Hirzebruch surfaces, we analyze solutions of the flow with symmetry and show that the flow always reaches a finite time singularity which either contracts the cone divisor to a single point and the flow Gromov-Hausdorff converges to a projective orbifold, or the flow converges to either the Riemann sphere or a single point. This phenomenon fits into a conjectural framework that characterizes finite time non-collapsing singularities of the flow on complex surfaces.

Monday, September 24 at 3:00 PM in 636 SEO