The Kähler-Ricci flow and $K$-polystability

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Abstract

Assuming that the curvature remains bounded along the Kähler-Ricci flow on a Fano manifold and that the Mabuchi energy is bounded from below, I will show that $K$-polystability of the manifold implies that it admits a Kähler-Einstein metric. This follows from a deformation result for constant scalar curvature Kähler metrics.