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## 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.