

Ricci flow with L^p bounded scalar curvature.

In this talk, we show that localised, weighted curvature integral estimates for solutions to the Ricci flow in the setting of a smooth four dimensional Ricci flow or a closed n -dimensional

Kähler Ricci flow always hold. These integral estimates improve and extend the integral curvature estimates shown in an earlier paper by the speaker. If M^4 is closed and real four dimensional, and the spatial L^p norm of the scalar curvature is uniformly bounded for some $p > 2$, for $t \in [0, T)$, $T < \infty$, then we show:

a) a uniform bound on the spatial

L^2 norm of the Riemannian curvature tensor for $t \in [0, T)$,

b) uniform non-expanding estimates for $t \in [0, T)$

(non-inflating estimates are known to hold due to work of R. Bamler)

c) convergence to an orbifold as $t \rightarrow T$,

d) existence of an extension of the flow to times $t \in [0, T + \sigma)$ for some $\sigma > 0$ using the orbifold Ricci flow.

This is joint work with Jiawei Liu