

UC Berkeley

Analysis and PDE Seminar

There are finitely many surgeries in Perelman's Ricci flow

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Although the Ricci flow with surgery has been used by Perelman to solve the Poincaré and Geometrization Conjectures, some of its basic properties are still unknown. For example it has been an open question whether the surgeries eventually stop to occur (i.e. whether there are finitely many surgeries) and whether the full geometric decomposition of the underlying manifold is exhibited by the flow as $t \rightarrow \infty$.

In this talk I will show that the number of surgeries is indeed finite and that the curvature is globally bounded by Ct^{-1} for large t . Using this curvature bound it is possible to give a more precise picture of the long-time behavior of the flow.

Monday, September 8

4:10–5pm, 740 Evans Hall