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Parabolic flows in complex geometry.

Parabolic flows are powerful tools in the study of geometric structures on manifolds. In this talk I will discuss some work (joint with Jian Song) on the behavior of the Ricci flow on Kahler manifolds. In particular, we analyze the singularities that form in complex dimension two and show how the flow can be continued through the singularities. I will also talk about some joint work with Valentino Tosatti on another parabolic flow, called the Chern-Ricci flow. This flow was first introduced by Matt Gill, and is a natural flow to consider on more general complex manifolds. I will discuss the behavior of this flow on complex surfaces, and give a number of examples. (Received August 07, 2012)