

1159-53-123

**Sigurd B Angenent** and **Dan Knopf\*** ([danknopf@math.utexas.edu](mailto:danknopf@math.utexas.edu)). *Ricci solitons, conical singularities, and nonuniqueness.*

In dimension  $n=3$ , there is a complete theory of weak solutions of Ricci flow — the singular Ricci flows constructed from Ricci flow spacetimes by Kleiner and Lott. These are unique across singularities, as was proved by Bamler and Kleiner. In joint work with Angenent, we show that uniqueness should not be expected to hold for Ricci flow spacetimes (weak solutions) in dimensions  $n>4$ . Specifically, we exhibit a discrete family of asymptotically conical gradient shrinking soliton singularity models, each of which admits non-unique forward continuations by gradient expanding solitons. (Received August 03, 2020)