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## Convex ancient solutions of curvature flows

Abstract: A solution of a curvature flow is called ancient if it is defined for all negative times. These solutions arise as limits of rescalings of a general solution and have been deeply investigated in the case of the Ricci Flow and of the Mean Curvature Flow as a crucial tool to understand the singular behaviour. In this this talk we present some properties of ancient solutions of general curvature flows of hypersurfaces. We show that in many cases the shrinking sphere enjoys rigidity properties and can be characterized as the unique convex ancient solution satisfying an additional restriction on the curvature pinching or other geometric quantities. On the other hand, we also show that these flows also possess convex ancient solutions which become more and more eccentric for large negative times. The results are obtained in collaboration with S. Risa.