Long time existence of minimizing movement solutions of Calabi flow

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Abstract:
In 1982 Calabi proposed studying gradient flow of the L^2 norm of the scalar curvature (now called Calabi flow) as a tool for finding canonical metrics within a given Kahler class. The main motivating conjecture behind this flow (due to Calabi-Chen) asserts the smooth long time existence of this flow with arbitrary initial data. By exploiting aspects of the Mabuchi-Semmes-Donaldson metric on the space of Kahler metrics I will construct a kind of weak solution to this flow, known as a minimizing movement, which exists for all time.