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Graphical Lorentzian MCF in the positive cosmological constant setting.

In this talk, I will describe an approach of using Lorentzian MCF to probe cosmologies satisfying the Einstein equation with positive cosmological constant and a stress energy tensor satisfying the strong and dominant energy conditions. Assuming surface symmetry, I will explain how such flow converges, in some sense, to the standard CMC slicing of de Sitter space. I will then illustrate a condition, natural in the above context, where any local graphical mean curvature flow in de Sitter space satisfying that condition converges to the standard CMC slicing of the entire de Sitter space. This is based on joint works with Creminelli, Senatore and Vasy, and on a joint work with Senatore.