**The asymptotic Plateau problem for convex hypersurfaces of constant curvature in Hyperbolic and De Sitter space**

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The asymptotic Plateau problem in $\mathbb{H}^{n+1}$ seeks to find a strictly locally convex hypersurface $\Sigma$ satisfying

$$f(\kappa[\Sigma]) = \sigma \in (0,1),\ \partial\Sigma = \Gamma\ .$$

where $\Gamma \in \partial_\infty \mathbb{H}^{n+1}$ is a prescribed (compact) asymptotic boundary and $\kappa[\Sigma] = (\kappa_1, \ldots, \kappa_n)$ denote the (positive) principal curvatures of $\Sigma$.

There is a natural dual asymptotic problem in De Sitter space $dS_{n+1}$, the complete simply connected Lorentzian manifold of constant curvature one. The dual problem actually takes place in the so called steady state space $\mathcal{H}$ which is foliated by spacelike umbilic hypersurfaces $L_\tau$ with constant mean curvature one with respect to the past oriented unit normal. The limit boundary $L_\infty$ represents a spacelike future infinity for timelike and null lines of de Sitter space.

In the dual problem, we seek complete spacelike (i.e. the induced metric is Riemannian) strictly locally convex immersions with constant curvature $\sigma > 1$ and with prescribed (compact) future asymptotic boundary $\Gamma$. We will discuss the complete solution of both problems and some surprising corollaries concerning the existence of convex solutions corresponding to the curvature functions $f = (H_k)^{\frac{1}{k}}$.