Geometry Session

Constant mean curvature hypersurface in $\mathbb{H}^{n+1}(-1)$ and space-like hypersurfaces in $M_1^{n+1}(c)$

Hudson Pina de Oliveira[1] .
(UFMT - Brazil)

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Math Department - SALA B

Abstract.

Let M be a hypersurface with constant mean curvature (CMC hypersurfaces) immersed in a hyperbolic space $\mathbb{H}^{n+1}(-1)$ or a space-like hypersurface with constant mean curvature immersed in a Lorentz space form $M_1^{n+1}(c)$, $c \in \{-1, 0, 1\}$ such that the $\mathbb{L}^d$ norm of $|\phi|$, for some d, on geodesic balls centered at some point $p \in M$ has less than quadratic growth, where, ϕ is the traceless part of the second fundamental form of M. We find additional conditions to imply that M is totally umbilical.

[1]hudson.oliveira@ufmt.br