Rigidity of complete minimal submanifolds in a Hyperbolic space

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Resumo

We prove some gap theorem for complete immersed minimal submanifold of dimension no less than six or four, depending on the codi- mension, in a hyperbolic space $\mathbb{H}^{n+m}(-1)$. That is, we show that a high dimensional complete immersed minimal submanifold M in $\mathbb{H}^{n+m}(-1)$ is totally geodesic if the L^d norm of $|A|$, for some d, on geodesic balls centered at some point $p \in M$ has less than quadratic growth and if either $\sup_{x \in M} |A|^2$ is not too large or the L^n norm of $|A|$ on M is finite, were, A is the second fundamental form of M.

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