Minimal graphs over certain unbounded domains of Hadamard manifolds

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Resumo

Given an unbounded domain Ω of a Hadamard manifold M, it makes sense to consider the problem of finding minimal graphs with prescribed continuous data on its cone-topology-boundary, i.e., on its ordinary boundary together with its asymptotic boundary. In this article it is proved that under the hypothesis that the sectional curvature of M is ≤ -1 this Dirichlet problem is solvable if Ω satisfies certain convexity condition at infinity and if $\partial\Omega$ is mean convex. We also prove that mean convexity of $\partial\Omega$ is a necessary condition, extending to unbounded domains some results that are valid on bounded ones.