

ϕ -minimal graphs in certain manifolds with density

Juan J. Salamanca
Departamento de Geometría y Topología
Universidad de Granada
E-mail: jjsalamanca@ugr.es

Abstract

Given a manifold with density, the critical points of the weighted area functional are the ϕ -minimal hypersurfaces. Note that this notion generalizes properly the classical minimal hypersurfaces. We focus on the case the manifold is a warped product with density over a parabolic manifold. In this setting, the class of ϕ -minimal graphs is associated to a wide family of PDEs. Using geometrical techniques, we provide several uniqueness results for ϕ -minimal graphs. As application, uniqueness for new Moser-Bernstein type problems are shown. Classical minimal graphs are also considered as a special case.

References

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