

SEMINARIO DI GEOMETRIA E ALGEBRA

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Some rigidity results for stable minimal hypersurfaces

Abstract. In this talk I will describe two recent results concerning the rigidity of complete, immersed, orientable, stable minimal hypersurfaces: they are hyperplane in \mathbb{R}^4 while they do not exist in some positively curved closed Riemannian $(n + 1)$ -manifold when $n \leq 5$. The first result was proved also by Chodosh and Li, and the second is a consequence of a more general result concerning minimal surfaces with finite index. Both theorems rely on a conformal method, inspired by a classical paper of Fischer-Colbrie. I will also present an application of these techniques to the study of critical metrics of a quadratic curvature functional.



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