

Geometric elliptic functionals and mean curvature

LUIS J. ALÍAS, JORGE H. S. DE LIRA AND MARCO RIGOLI

Abstract. We introduce an extended notion of mean curvature for graphs via the Euler-Lagrange equation of a geometric elliptic functional. We then draw some geometric conclusions for Killing graphs with prescribed weighted and anisotropic mean curvatures with the aid of a general form of the weak maximum principle and a sufficient condition for an appropriate notion of parabolicity.

Mathematics Subject Classification (2010): 49Q20 (primary); 53C21, 53C42 (secondary).