

Min-max Construction of Anisotropic Minimal Hypersurfaces

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We use the min-max construction to find closed optimally regular hypersurfaces with constant anisotropic mean curvature with respect to elliptic integrands in closed n -dimensional Riemannian manifolds. The critical step is to obtain a uniform upper bound for density ratios in the anisotropic min-max construction. This confirms a conjecture posed by Allard [Invent. Math., 1983]. The talk is based on joint work with G. De Philippis and Y. Li.