

1080-53-165

Longzhi Lin* (lzl@math.rutgers.edu), Department of Mathematics, Rutgers University, 110 Frelinghuysen Road, Piscataway, NJ 08854-8019, and **Tobias Lamm**. *Estimates on the energy density for critical points of a class of conformally invariant variational problems.*

We will discuss a global estimate (in the local Hardy space) on the energy density of critical points of a class of conformally invariant variational problems with small energy on the unit 2-disc, using Riviere's gauge decomposition technique and Wente's inequality. As a corollary we obtain a new proof of the energy convexity and uniqueness result for weakly harmonic maps with small energy on the unit 2-disc. This is a recent joint work with Tobias Lamm. (Received January 24, 2012)