EXISTENCE OF STABLE H-SURFACES IN CONES AND THEIR REPRESENTATION AS RADIAL GRAPHS

ALESSANDRO IACOPETTI

ABSTRACT. In this poster we illustrate some new results, obtained in collaboration with Prof. Paolo Caldiroli, concerning the Plateau problem for disk-type surfaces contained in conic regions of $\mathbb{R}^3$ and with prescribed mean curvature H.

Assuming a suitable growth condition on H, we prove existence of a least energy H-surface X spanning an arbitrary Jordan curve Γ taken in the cone. Then we address the problem of describing such surface X as radial graph when the Jordan curve Γ admits a radial representation. Assuming a suitable monotonicity condition on the mapping $\lambda \mapsto \lambda H(\lambda p)$ and some strong convexity-type condition on the radial projection of the Jordan curve Γ, we show that the H-surface X can be represented as a radial graph.

POST-DOC, UNIVERSITÀ DI TORINO
E-mail address: alessandro.iacopetti@unito.it