

Quadratic Tilt-Excess Decay and Strong Maximum Principle for Varifolds

REINER SCHÄTZLE

Abstract. In this paper, we prove that integral n -varifolds μ in codimension 1 with $H_\mu \in L_{\text{loc}}^p(\mu)$, $p > n$, $p \geq 2$ have quadratic tilt-excess decay

$$\text{tiltex}_\mu(x, \varrho, T_x\mu) = O_x(\varrho^2)$$

for μ -almost all x , and a strong maximum principle which states that these varifolds cannot be touched by smooth manifolds whose mean curvature is given by the weak mean curvature H_μ , unless the smooth manifold is locally contained in the support of μ .

Mathematics Subject Classification (2000): 49Q15 (primary); 35J60, 53A10 (secondary).