

HIGHER ORDER MEAN CURVATURE ESTIMATES FOR COMPLETE HYPERSURFACES INTO HOROBALLS

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ABSTRACT

We consider properly immersed two-sided hypersurfaces $\varphi : M \rightarrow N$ such that $\varphi(M)$ is contained in a horoball of N , where N satisfies fairly weak curvature bounds and we prove higher order mean curvature estimates that are natural extensions of the estimates obtained by Alias, Dajczer and Rigoli in [1] and Albanese, Alias and Rigoli in [2]. We show that these ambient curvature bounds in the presence of the properness of φ guarantees that M satisfies a general version of the weak maximum principle established by Albanese, Alias and Rigoli in [2].

References

- [1] L. J. Alias, M. Dajczer and M. Rigoli, Higher order mean curvature estimates for bounded complete hypersurfaces, *Nonlinear Anal.*, 84 (2013), 73–83.
- [2] G. Albanese, L. J. Alias and M. Rigoli, A general form of the weak maximum principle and some applications, *Rev. Mat. Iberoam.*, 29 (2013), 1437–1476.