ASYMPTOTIC LINES OF SURFACES IN $\mathbb{R}^n$, $n = 4, 5$

FEDERICO SÁNCHEZ-BRINGAS

Abstract. We describe the differential equations of the asymptotic lines on a surface in $\mathbb{R}^4$ in terms of some new invariants, by means of the Gauss map, and analyze some of their geometric properties. Moreover, we consider a natural generalization of this approach for surfaces in $\mathbb{R}^5$. Joint work with Pierre Bayard.