Complete Surfaces in $\mathbb{R}^3$ with Ends of Non Positive Curvature

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Abstract. We extend Efimov's Theorem by proving that any complete surface in $\mathbb{R}^{\mathbb{H}}$ with Gauss curvature bounded above by a negative constant outside a compact set has finite total curvature, finite area and it is properly immersed. Moreover, its ends must be asymptotic to half-lines. We also give a partial solution to Milnor's conjecture and show that the generalized cylinders are the only complete surfaces of non positive Gauss curvature isometrically immersed in $\mathbb{R}^3$ with one of its principal curvature functions k_i satisfying $k_i^2 \geq \text{const} > 0$. This is a joint work with Galvez, Jose Antonio and Teruel, Jose Luis, both from the University of Granada.