

VARIATIONAL CHARACTERIZATION OF THE CATENOID

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ABSTRACT. We characterize the catenoid as the unique surface minimizing area in a geometrically natural class of minimal annuli. The proof relies on a certain convexity result of Osserman and Schiffer that is of independent interest. The only proof of this convexity result I am aware of relies on special properties of minimal surfaces in \mathbb{R}^3 . We discuss alternative approaches to this convexity result with a view towards results about other 3-manifold geometries.