THE RELATIVE ISOPERIMETRIC PROBLEM FOR MINIMAL SURFACES

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Abstract: In this talk, we will discuss the relative isoperimetric problem, which dates back to the Queen Dido in ancient Carthage era. Following X. Cabr\'{e}'s ABP (Alexandroff-Bakelman-Pucci) method, we prove the relative isoperimetric inequalities for the minimal surfaces in Euclidean space, which is optimal when the codimension is less than 2. In other words, we obtain a free boundary relative version of isoperimetric inequalities for the minimal surfaces in Euclidean space proved by S. Brendle (arXiv:1907.09446). This talk is based on joint work with Prof. Lei LIU and Prof. Guofang WANG.