BOUNDARY REGULARITY OF MINIMAL SURFACES

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The critical points of the area functional, usually called minimal surfaces, have a long history in mathematics. Perhaps the most famous examples are the solutions of the so-called Plateau's problem, i.e. surfaces which minimize the area among the ones spanning a given contour. It is known since long that area minimiziers can form singularities and several concepts of generalized solutions, which serve different purposes, have been introduced in the literature since the first decades of the last century. A wide field of study is the regularity of the latter objects. While there is a quite good understanding of the size of singularities away from the boundary in very many situations, the same cannot be said for the case of boundary singularities, for which we have very satisfactory theorems only in relatively few, albeit important, cases. I will review some results of the last decade which touched for the first time a category of problems in the area, and I will explain a recent joint work with Stefano Nardulli and Simone Steinbruchel which gives a first positive answer to a question of Allard and White.

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