

Boundary regularity for multi-valued Dirichlet minimizers

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In this talk, we will present recent results that establish an optimal estimate on the Hausdorff dimension and $(m - 3)$ -rectifiability of the boundary singular set of Q -valued (or multi-valued) functions that minimize the Dirichlet energy. Originally introduced by Almgren, these functions provide the natural linearization of the area functional, and there exist examples of Q -functions that minimize the Dirichlet energy and exhibit singularities both in the interior and on the boundary. If time permits, we will define the frequency function and briefly discuss its fundamental role in the theory. This talk is based on joint work with Ian Fleschler.

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