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Some Remarks on the (Non-) Attainment of the Boundary Data for Variational Problems in the Space BV

We discuss the standard relaxed version of a minimization problem for variational integrals of linear growth together with prescribed Dirichlet boundary data u_0 and give estimates for the size of the set $\{x \in \partial\Omega : u(x) \neq u_0(x)\}$ for BV-minimizers u which imply

$$\mathcal{H}^{n-1}\left(\{x \in \partial\Omega : u(x) < u_0(x)\}\right) = \mathcal{H}^{n-1}\left(\{x \in \partial\Omega : u(x) > u_0(x)\}\right)$$

in the case of minimal surfaces u not attaining the boundary values u_0 on a subset of $\partial\Omega$ with positive measure.

Keywords: Variational problems of linear growth, boundary behaviour, minimal surfaces.

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