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Existence of Absolute minimizers in the L^∞ Calculus of Variations

We consider the problem

$$\min \|f(x, u, Du)\|_{L^\infty}$$

with Dirichlet Boundary conditions. We prove the existence of Absolute minimizers in both scalar and vectorial case, under general growth conditions on the integrand f . This problem is related to the Evans-Gangbo approach to the Monge problem and to the related formulations of some shape optimization problems.