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Existence of an Absolute Minimizer via Perron's Method

The existence of an absolute minimizer for a functional

$$F(u, \Omega) = \operatorname{ess\,sup}_{x \in \Omega} f(x, u(x), Du(x))$$

is proved by using Perron's method. The function is assumed to be quasiconvex and uniformly coercive. This completes the result by T. Champion, L. De Pascale and F. Prinari [Gamma-convergence and absolute minimizers for supremal functionals, ESAIM Control Optim. Calc. Var. 10 (2004), No. 1, 14–27 (electronic)].

Keywords: Supremal functionals, absolute minimizer.

MSC: 49J45, 49J99