Bounds for vector valued minimizers of some integral functionals

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Abstract

We deal with maps $u : \Omega \subset R^n \to R^N$ minimizing variational integrals $\int_\Omega f(x, Du(x))dx$. Under suitable assumptions on f, we prove upper and lower bounds for every component u^β of the minimizer $u = (u^1, \ldots, u^N)$. Our results cover the model case $n = N$ with $f(x, z) = |z|^2 + h(detz)$ where $h : R \to [0, \infty)$ is continuous.