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Integrability for vector-valued minimizers of some variational integrals

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Abstract: We prove that the higher integrability of the data f, f_0 improves on the integrability of minimizers u of functionals \mathcal{F} , whose model is

$$\int_{\Omega} [|Du|^p + (\det(Du))^2 - \langle f, Du \rangle + \langle f_0, u \rangle] dx,$$

where $u : \Omega \subset \mathbb{R}^n \rightarrow \mathbb{R}^n$ and $p \geq 2$.

Keywords: calculus of variations, minimizers, regularity

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