

## GRADIENT INTEGRABILITY FOR BOUNDED BD-MINIMIZERS

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We consider functionals of the form  $\int_{\Omega} f(\varepsilon(u)) \, dx$  with a convex integrand  $f$  of linear growth, which depends only on the symmetric part  $\varepsilon(u)$  of the gradient, and we study their minimization among all functions with prescribed boundary values.

Minimizing sequences are bounded in the space LD, but they are not necessarily weakly relatively compact, due to insufficient compactness properties of this space. Therefore, the functional is extended suitably to the space BD of functions of bounded deformation, where the existence of (BD-)minimizers can in turn be guaranteed. Though the space BD is, by Ornstein's non-inequality, strictly larger than the space BV of functions of bounded variation, Sobolev regularity of (BD-)minimizers can be shown to hold for the same threshold on the lack of ellipticity as in the full gradient case (which is relaxed to the space BV). This talk is based on a joint project with Ferdinand Eitler (Augsburg) and Franz Gmeineder (Konstanz).