

## Characterization of oscillation and mass concentrations occurring along sequences of $\mathcal{A}$ -free functions

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I will establish a functional dichotomy between  $\mathcal{A}$ -quasiconvex integrands, a notion of convexity associated to a constant coefficient differential operator  $\mathcal{A}$ , and the many ways a sequence  $(u_j)$  of functions satisfying the differential constraint  $\mathcal{A}u_j = 0$  may fail to converge strongly in  $L^1$ , due to oscillation and/or concentration effects. Concerning applications, I will discuss some interesting examples that showcase the failure of  $L^1$ -compensated compactness when concentration of mass is allowed. For instance, I will explain why a sequence of divergence-free vector-fields may develop any type of oscillation/concentration patterns.