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A Note on Gradient Young Measure Relaxation of Dieudonné-Rashevsky Type Control Problems with Integrands $f(s, \xi, v)$

We prove a relaxation theorem for multidimensional control problems of Dieudonné-Rashevsky type in terms of generalized controls. The main ingredient of the proof is a characterization theorem for gradient Young measures supported on the convex control domain $K \subset \mathbb{R}^{nm}$, which generalizes previous work of Kinderlehrer and Pedregal.

Keywords: Multidimensional control problem, minimal value, nonconvex relaxation, lower semicontinuous quasiconvex envelope, gradient Young measure.

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