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CONVERGENCE OF MINIMA OF INTEGRAL FUNCTIONALS, WITH APPLICATIONS TO OPTIMAL CONTROL AND STOCHASTIC OPTIMIZATION

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Abstract. Let $(S, \mathcal{A}, \mu)$ denote a positive measure space, where $\mathcal{A}$ is the Borel σ-algebra of the Polish space S and where it is assumed that μ is a bounded measure. The main result concerns epi-$\lim_{\nu \to \infty} E^\nu f = Ef$ under six different conditions, where $f : X \times S \to \mathbb{R} \cup \{+\infty\}$, X a Banach space, $Ef(x) = \int f(x,s) d\mu(s)$, $E^\nu f(x) = \int f(x,s) d\mu^\nu(s)$, $x \in X$, and where μ^ν is a sequence of measures converging weakly to μ.

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