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On the Weak* Convergence of Subdifferentials of Convex Functions

Let us assume that a sequence $\{f_n\}_{n=1}^{\infty}$ of proper lower semicontinuous convex functions is bounded on some open subset of a weakly compactly generated Banach space. It is shown that if $\{f_n\}_{n=1}^{\infty}$ is a Mosco converging sequence, then for every subgradient x^* of f at x there are subgradients $x_n^* \in \partial f_n(x_n)$ such that $\{x_n^*\}_{n=1}^{\infty}$ is weakly* converging to x^* .

Keywords: Subdifferentials, convex function, Attouch's theorem.

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