Topological properties of the subdifferential in Asplund Spaces

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Abstract. It is well known that if $f : X \to R$ is Fréchet differentiable, bounded from below on any bounded set, and satisfies the coercive condition $\lim_{\|x\|\to\infty} \frac{f(x)}{\|x\|} = +\infty$, then the set $\{f'(x)|x \in X\}$ is dense in X^* . In this presentation we discuss some extensions of the above result.