G. Godefroy, V. Montesinos, V. Zizler
Strong subdifferentiability of norms and geometry of Banach spaces

Abstract: The strong subdifferentiability of norms (i.e. one-sided differentiability uniform in directions) is studied in connection with some structural properties of Banach spaces. It is shown that every separable Banach space with nonseparable dual admits a norm that is nowhere strongly subdifferentiable except at the origin. On the other hand, every Banach space with a strongly subdifferentiable norm is Asplund.