

Corrections to chapters 0 to 3 of the book
Nonsmooth Analysis and Control Theory by
Clarke, Ledyaev, Stern and Wolenski

Francis Clarke clarke@math.univ-lyon1.fr

August 2010

- page 31 Line 4: (1), not (2.1)
- page 46, before “this confirms”: the first term needs a minus sign
- page 57: to apply Prop. 8.2, take

$$f_1(x) = f_1(x) - \langle \zeta, y - x_0 \rangle, f_2(x) = f_2(x) + \sigma \|y - x_0\|^2$$

- page 57, line -4: $-\zeta$ is missing
- page 59: The statement of Theorem 9.1 can (should) also say that $|g(\tilde{y}) - g(F(x_0))| < \epsilon$
- page 63, 11.2: point out that 0 lies in the boundary of S
- page 64, 11.12: set $f(0) = 0$
- page 66, 11.20(c): in defining f_1 , put y^3/x
- page 66, 11.20(e): say $\forall v$, not $\forall x$
- page 66, 11.20(f): $y \mapsto f'_G(y)$ is continuous
- page 67, 11.23(e): converge to $(\theta/|\theta|, 0)$
- page 67, 11.25: give hint to use Problem 11.13? Put f'_G
- page 68, 11.26(b): drop 11.25 in the hint
- page 73, 1.4(b): $f^\circ(0; v)$
- page 76, line 7: “expression”, not “equation”
- page 89, line 8: the x_i is just in a (small) neighborhood of the interval (no problem)

- page 108, Theorem 1.9: delete reference to f in the statement
- page 109, line 6: $\beta \in [0, -g(x_0)]$
- page 110, 1.12: delete reference to f in the statement
- page 129, 3.5(c): take $x_0 = 0$
- page 162, line 8: $x(a)$
- page 171, 7.8: need E convex
- page 175, 7.30: what is well-known is the existence of a set satisfying

$$0 < \mathcal{L}(S \cap [a, b]) < b - a \quad \forall a < b,$$

which is all that is needed here. (There is no set satisfying the original formulation.)