Asymptotic Cones and Functions in Optimization and Variational Inequalities
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Springer Monograph in Mathematics, 2003, Springer Verlag, New York

Errata as of September 2006

p.8, l.2: $C_1 \cap \operatorname{ri} C_2 = \emptyset$.
p.9, l.7: $\alpha \cdot \infty = 0$.
p.10, l.7: replace 'epi$(\inf_{i \in I} f_i) = \cup_{i \in I} \operatorname{epi} f_i$' by epi$(\inf_{i \in I f_i}) \subset \cup_{i \in I} \operatorname{epi} f_i$'.
p.11, l.9: replace '$x, y \in \mathbb{R}^n$' by '$x, y \in \operatorname{dom} f$'.
p.13, In Proposition 1.2.9, l.17: replace $t_i f_i(x)$ by $t_i f_i(x_i)$.
p.16, l.13: replace 'max' by 'sup'.
p.17, l.-7: replace '$x \in \operatorname{ri}(\operatorname{dom} f)$' by '$x \in \operatorname{int}(\operatorname{dom} f)$'
p.19, l.12: replace $\{C\}_{i \in I}$ by $\{C_i\}_{i \in I}$.
p.19, l.24: $\operatorname{dom} \sigma_C \subset \cap_{i \in I} \operatorname{dom} \sigma_{C_i}$.
p.22, l.17: after 'at every point $\bar{x} \in \mathbb{R}^n$,' insert '(and $S(\bar{x})$ is a compact set for each $\bar{x}$)'.
p.43, l.14: add the assumption 'C is semibounded'; l.19 (b): remove 'If in addition C is semibounded then'.
p.44, Just after Definition 2.4.1, the sentence "We recall....for all $y \in V$ " should be removed. The continuity of σ_C at x means that for each sequence $\{x_k\}$ converging to x the sequence $\{\sigma_C(x_k)\}$ converges to $\sigma_C(x)$.
p.49, l.18: denotes
p.53, l.3: replace '$f(t) = t \sin t^{-1}$' by '$f(t) = t \sin t$'.
p.55, l.4: in the second expression for $\mathcal{K}_f$, replace '$(\operatorname{epi} f)_\infty \cap \{(d, 0) | d \in \mathbb{R}^n\})$' by '$L((\operatorname{epi} f)_\infty \cap \{(d, 0) | d \in \mathbb{R}^n\})$, where L is the projection map on $\mathbb{R}^n$'.
p.59, l.2: replace p_f by p.
p.59, l.11: y, x should be 'd' in the formula of $\operatorname{cl} p$.
p.62, In Proposition 2.6.4, replace '$\psi : (-\infty, b) \to \mathbb{R}$ with $0 \le b \le \infty$ be a convex' by '$\psi : \mathbb{R} \cup \{+\infty\}$ with $\operatorname{dom} \psi = (-\infty, b), 0 \le b \le +\infty$ be a lsc convex'.
p.65, l.-2: in the right hand side of (c), replace '$\psi(s^{-1})$' by '$\psi^*(s^{-1})'$.
p.67,l.17: replace 'tr(AB)' by 'tr $A^t B$'.
p.79, l.-18: after by Zalinescu [135], add 'see also C. Zalinescu, Stability for a class of nonlinear optimization problems and applications, in *Nonsmooth Optimization and Related Topics*, F. H. Clarke, V. F. Dem'yanov, F. Gianessi (eds.), Plenum Press, New York, 1989, pp. 437-458.'.
p.82, l. -16: change 'on the level set' by 'on the nonempty level set'.
p.83, l.-7: d_k converging to x.
p.91, l.15: add after 'convex' 'and with $\inf f > -\infty$'.
p.92, l.9: after '$f := \sup_k f_k$' insert 'a proper function,'.
p.100, l.-3: replace 'Then since' by 'Then since whenever $C(y) \neq \emptyset$, one has'.
p.111, l.11: remove the extra +.
p.112, l. -8: after image add: of such a set under a linear map is closed.
p.113; l.18: replace ε_1 by λ_1.
p.120, l. -11: after '$i = 1, \ldots, r$' add ' and '$f_i(\hat{x}) \le 0, \ i = r + 1, \ldots, m$.
p.121, l.7: To apply Proposition 1.2.22, one needs to change 'ri dom f_0' by 'int dom f_0' in the

hypothesis (ii), (p.120, l,-11). However, a different proof of Theorem 4.1.2 would allow to keep the hypothesis (ii) as stated with the relative interior assumption on $\operatorname{dom} f_0$.
p.125, l.-11: should be '$(f(x) - \lambda)^+$' instead of '$(f(x))^+$'.
p.126, In Lemma 4.2.2 (b): replace $y \in \operatorname{ri} \operatorname{dom} f$ by $y \in \operatorname{int} \operatorname{dom} f$.
p.127, l.4, l. -4, l. -7; p.128, l.11 and p.131 l. -12: replace $x \in \operatorname{ri} \operatorname{dom} f$ by $x \in \operatorname{int} \operatorname{dom} f$.
p.127, l.-4; p.128, l.11, and p.131, l. -12: insert after that '$\infty > f(x) > \inf f$'.
p.130, l.-3: last term should be $s(f^*(y/s) + \lambda)$.
p.131, l.13: replace Proposition 3.6.1 by Proposition 3.6.2
p.133, l.-2: replace 'norm on $\mathbb{R}^n$ by 'norm on $\mathbb{R}^m$'.
p.140, l.17: replace the letter 'm' in (P) by 'm_*', as well in the corresponding places in Theorem 4.1.1 and its proof in p. 141.
p.141, l.12: replace Definition 4.3.1(c) by Definition 4.4.1(c), and in l.19: Theorem 4.1.1 by Theorem 3.6.3.
p.150, l.19: Without additional assumptions on Φ, the implication (b) $\Longrightarrow$ (c) is incorrect.
p.156, l.2: after Theorem 5.1.4(a) add: and Corollary 5.1.1(a) applied...
p.156, in Corollary 5.2.2: remove: and $g : \mathbb{R}^n \to \mathbb{R} \cup +\infty$, and add: be a proper lsc convex function, and let A:...
p.160, In Proposition 5.3.2, the statement (b) should be replaced by 'Under assumption (R), if $0 \in \operatorname{ri} \operatorname{dom} \varphi$, then assumption (S) holds, and $\operatorname{ri} \operatorname{dom} \varphi = \operatorname{int} \operatorname{dom} \varphi$'.
p.160, l.-9: replace the letter '(L)' by '(R)'.
p.161, l.2: replace the letter '(L)' by '(R)'.
p.163, l.-10: remove the example of the log-sum-exp function which is not strictly convex.
p.164, l.-2: add for 'every k' after $C_1(u^k)$.
p.178, in formula (5.8) replace: $\sup_{y \in D} K(\cdot, y)_\infty > 0, \ \forall w \neq 0$.
p.179, l.17: replace $S_P(v)$ by $S_P(u)$.
p.192, l.3: replace 'is then' by 'and then δ_C'.
p.194, l.-3: replace (y, w) by (z, w), and $y \in \partial f_0(x) + \ldots$ by $z \in \partial f_0(x) \ldots$.
p.210, l.8: replace $\forall v \in \operatorname{dom} T$ by $\forall w \in \operatorname{dom} T$.
p.215, l.-5 and last line: replace Proposition 6.6.4(v) by Proposition 6.6.4(e) and Proposition 6.6.4(iv) by Proposition 6.6.4(d).
p.217, l.-7: add 'if' after we assume.
p.219, l.18: replace 'using Corollary 6.8.2' by 'using Corollary 6.8.2'.
p.220, l.1: replace 'enssure' by 'ensure'.
p.226, In statement of Theorem 6.9.2: add after exists x^*, 'in $M(u^*)$' and replace '$u^* + F(x^*) = 0$' with '$F(x^*) \leq 0$'. In the proof of that Theorem: add 'in $M(u^*)$' after there exists x^*.
p.229, l.8: remove the '(i)' in Proposition 6.8.1.

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