

CORRECTION

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# Correction: Optimality and duality theorems in nonsmooth multiobjective optimization

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We wish to indicate the following corrections to our original paper [1].

- (1) The first sentence in Definition 2.2, we delete “ $i \in \{1, 2, \dots, p\}$ ”.
- (2) The first sentence in Definition 2.2, we replace

$$f_i(x) + s(x|D_i) \not\leq f_i(x^0) + s(x^0|D_i)$$

to

$$f(x) + s(x|D) \not\leq f(x^0) + s(x^0|D).$$

- (3) The second sentence in Definition 2.3, we delete “ $i \in \{1, 2, \dots, p\}$ ”.
- (4) The second sentence in Definition 2.3, we replace

$$f_i(x) + s(x|D_i) \not\leq f_i(x^0) + s(x^0|D_i) + c_i \|x - x^0\|^m$$

to

$$f(x) + s(x|D) \not\leq f(x^0) + s(x^0|D) + c \|x - x^0\|^m.$$

- (5) The second sentence in Definition 2.4, we delete “ $i \in \{1, 2, \dots, p\}$ ”.
- (6) The second sentence in Definition 2.4, we replace

$$f_i(x) + s(x|D_i) \not\leq f_i(x^0) + s(x^0|D_i) + c_i \|x - x^0\|^m$$

to

$$f(x) + s(x|D) \not\leq f(x^0) + s(x^0|D) + c \|x - x^0\|^m.$$

- (7) The second sentence in the proof of Theorem 2.1, we replace “ $c_i > 0, i = 1, \dots, p$ ” to “ $c \in \text{int}R_+^p$ ”.

- (8) The second sentence in the proof of Theorem 2.1, we replace

$$f_i(x) + s(x|D_i) \not\leq f_i(x^0) + s(x^0|D_i) + c_i \|x - x^0\|^m$$

to

$$f(x) + s(x|D) \not\leq f(x^0) + s(x^0|D) + c \|x - x^0\|^m.$$

- (9) In equation (3.8), we replace “ $c_i$ ” to “ $d_i$ ”.

- (10) The eighth sentence in the proof of Theorem 3.3, we replace “where  $c = ae$ ,” to “where  $d = ae$ ”.

(11) The ninth sentence in the proof of Theorem 3.3, we replace “ $c \in \text{int } R^p$ ” to “ $d_i > 0$ ,  $i = 1, \dots, p$ ”.

(12) The ninth sentence in the proof of Theorem 3.3, we replace “ $c_i$ ” to “ $d_i$ ”.

(13) The tenth sentence in the proof of Theorem 3.3, we replace “ $c_i$ ” to “ $d_i$ ”.

(14) The tenth sentence in the proof of Theorem 3.3, we replace “ $c_i$ ” to “ $d_i$ ”.

(15) In equation (4.8), we replace “ $c_i$ ” to “ $d_i$ ”.

(16) The tenth sentence in the proof of Theorem 4.1, we replace “where  $c = ae$ ,” to “where  $d = ae$ ”.

(17) The eleventh sentence in the proof of Theorem 4.1, we replace “ $c \in \text{int } R^p$ ” to “ $d_i > 0$ ,  $i = 1, \dots, p$ ”.

(18) The eleventh sentence in the proof of Theorem 4.1, we replace “ $c_i$ ” to “ $d_i$ ”.

(19) The twelfth sentence in the proof of Theorem 4.1, we replace “ $c \in \text{int } R^p$ ,” to “ $d_i > 0$ ,  $i = 1, \dots, p$ ”.

(20) The twelfth sentence in the proof of Theorem 4.1, we replace “ $c_i$ ” to “ $d_i$ ”.

(21) The twelfth sentence in the proof of Theorem 4.1, we replace “ $i = 1, \dots, p$ ” to “ $i = 1, \dots, p$ ”.

(22) The fourth sentence in the proof of Theorem 4.2, we replace “ $c_i$ ” to “ $c$ ”.

(23) The fourth sentence in the proof of Theorem 4.2, we replace

$$\begin{aligned} & f_i(x^0) + (x^0)^T w_i^0 + c_i \|u - x^0\|^m \\ & \preceq f_i(u) + u^T w_i, \quad i = 1, \dots, p. \end{aligned}$$

to

$$\begin{aligned} & f(x^0) + (x^0)^T w^0 + c \|u - x^0\|^m \\ & \preceq f(u) + u^T w. \end{aligned}$$

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#### Reference

1. Bae, Kim: Optimality and Duality Theorems in Nonsmooth Multiobjective Optimization. *Fixed Point Theory and Applications*. 2011, 42 (2011). doi:10.1186/1687-1812-2011-42

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