



## Correction to: On the Approximation of Unbounded Convex Sets by Polyhedra

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In this article, Algorithm 1 was duplicated instead of Algorithm 2. Algorithm 2 is below,

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### Algorithm 2: An algorithm for $(\varepsilon, \delta)$ -approximations of spectrahedra

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**Data:** Matrix  $\mathcal{A}(x)$  representing an unbounded closed and line-free spectrahedron  $C$  with nonempty interior, error tolerances  $\varepsilon$  and  $\delta$

**Result:**  $V$ -representation of an  $(\varepsilon, \delta)$ -approximation  $P$  of  $C$

- 1  $w \leftarrow (-A_1 \cdot I, \dots, -A_n \cdot I)^T / \left\| (-A_1 \cdot I, \dots, -A_n \cdot I)^T \right\|$  // interior point of  $(0^+C)^\circ$
  - 2  $M \leftarrow 0^+C \cap \left\{ x \in \mathbb{R}^n \mid w^T x = -(1 + \delta) \right\}$
  - 3 Compute a  $\delta/2$ -approximation  $\bar{M}$  of  $M$  according to Algorithm 1
  - 4  $\bar{M} \leftarrow \bar{M} + \left\{ x \in \mathbb{R}^n \mid \|x\|_1 \leq \frac{\delta}{2} \right\}$
  - 5  $K \leftarrow \text{cone vert } \bar{M}$
  - 6 Compute a  $H$ -representation  $(R, 0)$  of  $K$
  - 7 Compute solutions  $x_r^*$  of  $(P_1(r))$  for every row  $r$  of  $R$
  - 8  $\bar{C} \leftarrow C \cap \left\{ x \in \mathbb{R}^n \mid w^T x \geq \min_r w^T x_r^* - \varepsilon \right\}$
  - 9 Compute an  $\varepsilon$ -approximation  $\bar{P}$  of  $\bar{C}$  according to Algorithm 1
  - 10  $P \leftarrow \bar{P} + K$
  - 11 **return** a  $V$ -representation of  $P$
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The original article can be found online at <https://doi.org/10.1007/s10957-022-02020-3>.

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