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## Erratum: A superlinearly convergent predictor-corrector method for degenerate LCP in a wide neighborhood of the central path with $O(\sqrt{n}L)$ -iteration complexity

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**Abstract.** We correct an error in Algorithm 2 from [1]

**Key words.** linear complementarity problem, interior-point algorithm, large neighbourhood, superlinear convergence

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The higher order predictor (4.2) from [1] has to be modified in the degenerate case in order for the asymptotic convergence results from Lemma 4.5 and Theorem 4.6 to hold. More precisely equation (4.2) should be replaced by:

$$\begin{cases} su^1 + xv^1 = -(1 + \epsilon)xs \\ Qu^1 + Rv^1 = 0 \end{cases}, \\ \begin{cases} su^2 + xv^2 = \epsilon xs - u^1v^1 \\ Qu^2 + Rv^2 = 0 \end{cases}, \quad (1) \\ \begin{cases} su^i + xv^i = -\sum_{j=1}^{i-1} u^jv^{i-j} \\ Qu^i + Rv^i = 0 \end{cases}, \quad i = 3, \dots, m,$$

where

$$\epsilon = \begin{cases} 0, & \text{if HLCP is nondegenerate} \\ 1, & \text{if HLCP is degenerate} \end{cases}. \quad (2)$$

The computational complexity results hold for the modified algorithm, with slight modifications in the proof. Complete proofs can be found in a technical report available at <http://www.math.umbc.edu/~potra/predCorMPcor.pdf>

### References

1. F. A. Potra. A superlinearly convergent predictor-corrector method for degenerate LCP in a wide neighborhood of the central path with  $O(\sqrt{n}L)$ -iteration complexity. *Math. Programming*, 100:317–337, 2004.

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