

Corrigendum to: A convergent adaptive finite element method for elliptic Dirichlet boundary control problems

WEI GONG*

National Center for Mathematics and Interdisciplinary Sciences, The State Key Laboratory of Scientific and Engineering Computing, Institute of Computational Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, Beijing 100190, China

*Corresponding author: wggong@lsec.cc.ac.cn

WENBIN LIU

Kent Business School, University of Kent, Kent CT2 7PE, UK

W.B.Liu@kent.ac.uk

ZHIYU TAN

Department of Mathematics, Hong Kong Baptist University, Kowloon Tong, Hong Kong SAR
zhiyutan@amss.ac.cn

AND

NINGNING YAN

NCMIS, LSEC, Institute of Systems Science, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, Beijing 100190, China
ynn@amss.ac.cn

[Received on 18 September 2018]

In this corrigendum we would like to clarify some incorrect statements in our paper Gong *et al.* In the 16th line below equation (1.6) we said “In Chowdhury *et al.* (2017) the authors attempted to derive an *a posteriori* error estimate under formulation (1.1); however, the proof contains some flaws”. Herewith we clarify that the above statement is incorrect. In the proof of Lemma 5.1 in Chowdhury *et al.* (2017), although there is a gap in the derivation, it can be closed with an elaborate analysis and this yields a correct and rigorous proof. Also, the statement in Remark 3.2 of Gong *et al.* is incorrect. Although the auxiliary problem (5.3) introduced in Chowdhury *et al.* (2017) does not admit a unique solution, the solution is unique up to a constant, and this does not cause any problems for the *a posteriori* error estimates. In summary, the proofs of Lemma 5.1 and Theorem 5.2 in Chowdhury *et al.* (2017) are correct and our results provide an alternative proof. We would like to apologize sincerely to the authors S. Chowdhury, T. Gudi and A.K. Nandakumaran for our incorrect statements, and thank especially T. Gudi for providing a detailed proof. We would also like to thank Prof. Endre Süli, Editor-in-Chief of IMA Journal of Numerical Analysis, for the communications and for providing great help.

REFERENCE

CHOWDHURY, S., GUDI, T., & NANDAKUMARAN, A. K. (2017) Error bounds for a Dirichlet boundary control problem based on energy spaces. *Math. Comput.*, **86**, 1103–1126.

GONG, W., LIU, W., TAN, Z., & YAN, N. A convergent adaptive finite element method for elliptic Dirichlet boundary control problems. *IMA J. Numer. Anal.* <https://doi.org/10.1093/imanum/dry051>.