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LETTER TO THE EDITORS

Comments on "Numerical study of a backward-facing step with uniform normal mass bleed"

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The recently published paper by Yang and Kuo [1] insists on the development of a new turbulence model for predicting separated and reattaching flows. However, the model proposed by Yang and Kuo [1] is identical to that previously proposed by Abe *et al.* [2] which was published at an earlier date. No distinguishable difference can be found in the model constitution discussed by Yang and Kuo. The following critique should be given particular attention:

(1) In the Abstract and Conclusions sections, Yang and Kuo claim that "A new turbulence model is proposed..." and "The present study provides a new turbulence model...", respectively. This implies that the paper focuses on the proposal of a new turbulence model and that the model proposal is the principal contribution. However, the model proposed by Yang and Kuo is the same as that of Abe *et al.* [2].

(2) In connection with the above critique, Yang and Kuo are not allowed to use expressions such as "New turbulence model" in Tables 2 and 3 when describing the model constitution, because the model functions and model constants are the same as those of Abe *et al.* [2].

(3) Also in the Abstract and Conclusions sections, Yang and Kuo insist that the most important factor for obtaining better computational results is the introduction of the Komogorov velocity scale instead of the friction velocity. However, this is one of the important results contained in the paper by Abe *et al.* [2].

(4) Although Yang and Kuo [1] referred to Abe *et al.*'s paper [2], it appears to describe only their boundary conditions, not their model.

REFERENCES

1. Yang, Y.-T and Kuo, C.-L., Numerical study of a backward-facing step with uniform normal mass bleed, *International Journal of Heat and Mass Transfer*, 1997, **40**, 1677–1686.
2. Abe, K., Kondoh, T. and Nagano, Y., A new turbulence model for predicting fluid flow and heat transfer in separating and reattaching flows—I. Flow field calculations, *International Journal of Heat and Mass Transfer*, 1994, **37**, 139–151.