Review of: "Numerical Simulation and Computational Fluid Dynamics Analysis of Two-Dimensional Lid-Driven Cavity Flow Within the Weapon Bay of an Autonomous Fighter Drone"

Serhat Yilmaz[1]

1 Kocaeli University

Potential competing interests: No potential competing interests to declare.

1. The title is a bit long and could be shortened.
2. Some notations in the text are very repetitive, such as “within the weapon bay of an autonomous fighter drone” etc.
3. Introduction section is poorly presented. The attached recent articles can be examined and the sources can be enriched in order to strengthen the introduction and CFD anlaysis sections within the text;

a) Panda, J.P., Mitra, A. and Warrior, H.V., 2021. A review on the hydrodynamic characteristics of autonomous underwater vehicles. Proceedings of the Institution of Mechanical Engineers, Part M: Journal of Engineering for the Maritime Environment, 235(1), pp.15-29.

b) Salari M and Rava A. Numerical investigation of hydrodynamic flow over an AUV moving in the water-surface vicinity considering the laminar-turbulent transition. J Mar Sci Appl 2017; 16(3): 298– 304. 10.

c) Panda, J.P., 2020. A review of pressure strain correlation modeling for Reynolds stress models. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 234(8), pp.1528-1544.

d) Yılmaz, S. And Yilmaz, G. 2023. Identification of particular hydrodynamic parameters for a modular type 4 DOF underwater vehicle by means of CFD method. INDUSTRIAL ROBOT-THE INTERNATIONAL JOURNAL OF ROBOTICS RESEARCH AND APPLICATION , vol.50, no.4 , 609-622.

e) Y. Serhat, "Development stages of a semi-autonomous underwater vehicle experiment platform," INTERNATIONAL JOURNAL OF ADVANCED ROBOTIC SYSTEMS , vol.19, no.3, 2022

f) Mishra, A.A. and Girimaji, S.S., 2017. Toward approximating non-local dynamics in single-point pressure–strain correlation closures. J. Fluid Mech, 811, pp.168-188.

4) The CFD simulation calculation method used in this article is quite conventional and has less innovation compared with previous studies in the lid-driven cavity problem.

5) In Figure 4, the sign flow direction can be indicated by an arrow.

6) Figure.5 is not legible.

7) Far field boundary conditions and the reasons for their selection should be explained more clearly.

8) It is necessary to clearly emphasize the verification of grid independence, which allows to ensure that the number of grids is sufficient for analytical accuracy in the analysis.