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"

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Potential competing interests: No potential competing interests to declare.

The paper presents a numerical analysis computational fluid dynamics (CFD) of the two-dimensional flow within the weapon bay of an autonomous fighter drone. The topic is interesting and the potential novelty of the research is highlighted. However, the paper presents points of weakness in the presentation of the modelling and contains few and not detailed results. Thus, the potentialities of the study are not exploited at present.

The points of criticism reported in the following should be considered by the Authors to rise the quality of their research.

1) The main typology of results achieved should be indicated in the abstract.

2) The study case is well presented. Conversely, the CFD model applied is not correctly described. There are too many trivial equations as Eq. (7), Eq. (8), Eq. (9) and Eq. (17) while the details of the domain discretisation and the main computational settings are not indicated. Especially, the element number, size, distribution and growth ratio should be stated to allow for the reproducibility of the study.

3) The simplifications imposed in the model and their influence on the achieved results should be clearly indicated in the text. A sensitivity analysis to the spatial discretisation is not present and should be added using appropriate graphs and tables. The expected effects of the mesh characteristics on the accuracy of results and the computational time should be stated.

4) The results presented are few and not detailed. Furthermore, the results discussions completely ignore the motivations of the achievements.

5) The numerical results presented should be compared with experimental or numerical data existing in the literature.

6) The motivations for the specific choices of the specific operating conditions considered should be described.

7) The effect of the outcomes of the numerical simulations on the design and optimisation of autonomous fighter drones for military applications should be discussed in details to provide an effective contribution to the current knowledge.

8) The Conclusions Section needs to be completely restructured. The statements should be supported by numerical data,

which are completely missing at present. Moreover, the achievements of the research presented need to be clearly stated through quantitative information. Moreover, the Authors should clearly define the improvements proposed for the weapon bay of an autonomous fighter drones.

9) The quality of English needs to be improved to that of a scientific publication and the several mistakes presents need to be corrected.