Review of: "Numerical Study of Thermal Performance on Fin and Tube Heat Exchanger with Flat Rectangular and Sinusoidal Winglet Vortex Generators"

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Potential competing interests: No potential competing interests to declare.

It is always valid when developing theoretical research work using CFD to think about some points before starting it. Ask yourself: Did I do an adequate literature search?Will I propose something new or will I just replicate a work? Is there experimental data that I can use as a benchmark in my theoretical model, or will experimental testing be necessary? This will help an author compose a more robust work!

Finally, I hope that the suggestions and criticisms discussed here can help the authors in their professional development.

1. It is recommended that authors use quantitative values of the results in the summary, to facilitate the reader in making a decision whether to continue reading.

2. The entire grammar of the text must be reviewed, to avoid phrases such as: “In another numerical study slit fins with delta vórtex generators”, which are meaningless. Writing errors such as “sonusoidal” should also be removed.

3.The introduction should be prepared in a more coherent way, for example, references [11] and [17] deal with similar subjects and should be in the same paragraph.

4. Topic 2 and subtopics 3.1, 3.2 and 3.3 must begin with the text and not with the figures. Always give a brief description of what will be presented.

5. Fig.1 needs to be placed in a specific topic or subtopic and not in the middle of the model description. The drawing must be accurate, legible and complete (2 tubes are missing). It must contain all the information necessary for the reader. The letters “P”, “D”, “A”, “B”, “C” and “D” were placed and their meanings were not specified. If it’s not useful, don’t use it and vice versa!

6. The authors did not define the meaning of aspect ratio, nor did they show what "H" is.

7. When describing the governing equations, they must always be written together with the hypotheses adopted, as well as the reason for using them. If you used turbulence equations, they must also be written down. This consists of modeling the problem; therefore, it cannot leave any doubt for the reader. Remember that the number

of variables must be equal to the number of equations! All variables that appear in the equations must have their definitions recorded in the text, as well as the units used. For example, the variable "T" had no description about it. Still within the modeling context, Ansys® does not work with dimensionless variables, and the text reports: "The dimensionless Navier-Stokes...", which was confusing; as well as placing in parentheses next to the continuity equation "(Reynolds averaged Navier-Stokes equations)".

8. A subtopic should be used to describe how the decision on the size of the mesh to be used was made. This subject is as important as modeling, and whenever possible, the independence of the mesh in relation to all variables of interest to the work should be shown.

9. Two very critical points of the work were: using dimensionless groups and not defining them, and using a turbulence model in a Reynolds number range that varied between 400 and 1100. It is necessary to make it clear why the turbulence model was used, and the answer will certainly be connected to its definition of the Reynolds number.

10. The text that explains the comparison between figures 4(a), 4(b), and 4(c) was very confusing and lacks comments on physical phenomena. On the ordinate axis of Fig.7, it was written (i/j), and in the text, the authors refer to a parameter (j/f), which hindered the reading. Once again, I reinforce the need to clarify dimensionless variables such as Nusselt and Friction Factor.

11. In the topic about the references used, the authors were not careful to write all the mandatory details when using a colleague's work. Note, for example, Reference 1, the name of the magazine (Experimental Thermal and Fluid Science) was not included.