

# Review of: "Tsallis Entropy applied to microfluidic channels analysis"

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Potential competing interests: No potential competing interests to declare.

## Comments on manuscript: Qeios-RJ7RN7

In this manuscript, entitled "TSALLIS ENTROPY APPLIED TO MICROFLUIDIC CHANNELS ANALYSIS", the authors have theoretically investigated the thermodynamic performance of the fluid flow in a microchannel, exploring the possibility to evaluate the presence of obstacles or geometry imperfection. In terms of the amount and quality of work, the authors should improve the quality of the manuscript in view of the following comments:

1. The abstract section needs to be rewritten in view of the following comments:
  - Keep the entire abstract in the present sentence, if possible.
  - The current abstract does not include the research findings enough. The authors need to support the novelty of their research work by presenting some important values obtained through the present work.
1. Provide the 4-5 keywords after the abstract.
2. The Introduction Section:
  - This part needs to be revised with more recent and relevant pieces of literature, including the work from researchers who had worked extensively in this field, for a better assessment of the setup.
  - Don't write the paragraphs in one or two sentences only.
  - Where is the citation of the following statement: "The idea would be to apply the Tsallis formalism to a microfluidic channel, similar to the one investigated in *Marta's work*".
1. Kindly include each input data with the logical reason, used in the present study.
2. It will be good if the author can provide the geometry of the microchannels with the type of obstacles and boundary conditions taken for computational analysis.
3. Kindly replace the commas with decimal points in all the plots.
4. In Fig. 1, why curve for 0,043 is going in a negative direction at the beginning? Also, add the physical significance to the variation of each plot.
5. Try to improve the quality of the figures, I suggest Origin software to draw the plots.
6. Don't use equation numbers and references in the conclusion section. Rewrite this section with the remarkable findings only.

7. The grammar of the manuscript needs to be checked, and there are obscure expressions.
8. Please check on the formatting of your manuscript and improve the quality of the writing, too.

**Recommendation:** Present manuscript can be considered for publication after the minor revision.